Estates at McDonald Park: 15 Lots (TM 5560)
San Diego County (Ramona)
November 19, 2008
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Traffic Impact Study

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SIGNED ON
9/10/10

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Glossary of Terms and Acronyms

ADT ..... Average Daily Traffic
CEQA..... California Environmental Quality Act
CMP ..... Congestion Management Program
LOS .....Level of Service
MTS .....Metropolitan Transit System
MPH.....Miles per Hour
NCTD.....North County Transit District
SANDAG..... San Diego Association of Governments
TIF..... Transportation Impact Fee
TIS..... Traffic Impact Study

Executive Summary
Estates at McDonald Park (15 Lot Subdivision)

The Estates at McDonald Park is a residential project of 15 residential lots on a vacant land located at 1666 Hanson Lane in the unincorporated community of Ramona, California. As part of this project, a General Plan Amendment (GPA) will be submitted under separate cover that would change the existing zoning from A-70 (Limited Agricultural) to RR-2 (Rural Residential) to reduce the minimum lot size from 1 acre to 0.5 acres. The proposed project has been designed by the applicant's civil engineer for the highest possible density at 15 lots. According to the applicant's civil engineer, with the minimum lot size of 0.5 acres there is only one lot large enough to be split again; however, due to topographic/slope constraints this remaining lot would be prevented from being split (reference included in **Appendix A1)**. Therefore, the traffic study documents the highest traffic generation possible for the subject property as part of the GPA.

The project is calculated to have no direct impacts and one cumulative impact. A summary of project impacts and mitigation is shown in **Table E-1**.

TABLE E-1: SUMMARY OF PROJECT IMPACTS AND MITIGATION

Roadway Facility	Near-Term Direct Impacts	Near-Term Cumulative Impacts
Segments	0 (no mitigation required)	1 (TIF participation by applicant. Fully mitigated with recommended TIF improvement)
Intersections	0 (no mitigation required)	0 (no mitigation required)
Driveway Spacing	Less than Design Standard (Modification to Roadway Standard in Appendix R)	Less than Design Standard (Modification to Roadway Standard in Appendix R)
Roadway Facility	**Horizon Year Direct Impacts**	**Horizon Year Cumulative Impacts**
Segments	0 (no mitigation required)	0 (no mitigation required)
Intersections	0 (no mitigation required)	0 (no mitigation required)
Driveway Spacing	Less than Design Standard (Modification to Roadway Standard in Appendix R)	Less than Design Standard (Modification to Roadway Standard in Appendix R)

1.0 Introduction

This report describes the existing roadway network in the vicinity of the project site and includes a review of the existing and proposed activities for weekday peak AM, Midday, PM periods and daily traffic conditions when the project is completed. The format of this study includes the following chapters:

1.0 Introduction
2.0 Existing Conditions
3.0 Project Impact Analysis
4.0 Impact Summary
5.0 Summary of Project Impacts and Mitigation
6.0 References
7.0 List of Preparers and Persons and Organizations Contacted

1.1 Purpose of the Report

The purpose of this traffic impact study is to determine and analyze potential traffic impacts for the proposed Estates at McDonald Park residential project.

1.2 Project Location and Description

The Estates at McDonald Park is a residential project of 15 lots located in the unincorporated community of Ramona, California. The project is located south of Hanson Lane between the main cross streets of Ramona Street and San Vicente Road as shown in **Figure 1**. A map of the Traffic Impact Study (TIS) area is shown in **Figure 2.**

The project proposes 15 single-family lots on approximately nine acres. According to the applicant's civil engineer, with the minimum lot size of 0.5 acres there is only one lot large enough to be split again; however, due to topographic/slope constraints this remaining lot would be prevented from being split. The project site is currently vacant. A site plan is shown in **Figure 3**, which documents primary access to Hanson Lane and secondary access that will be gated but will allow emergency passage to or from Hanson Way.

Figure 1: Project Location

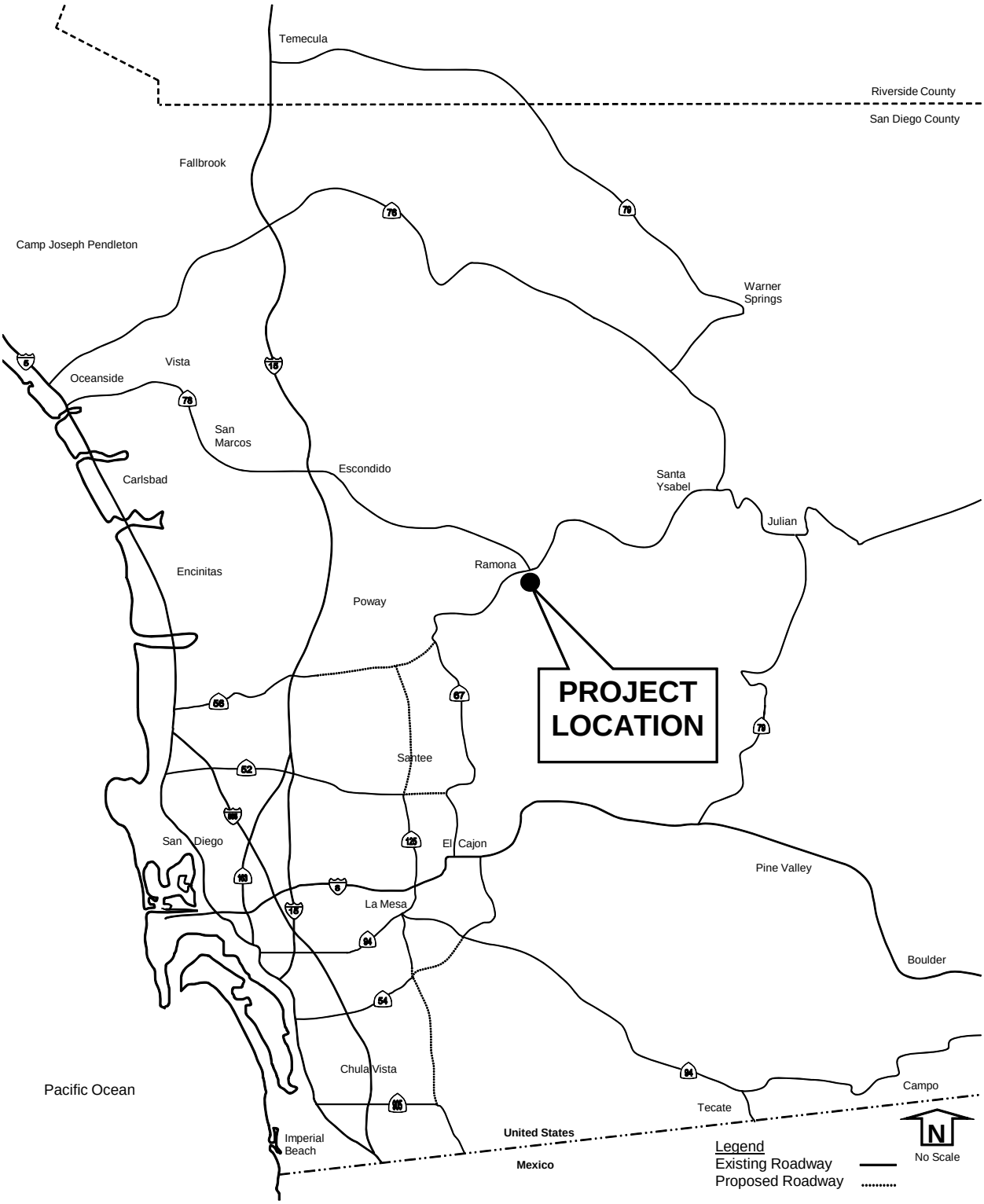
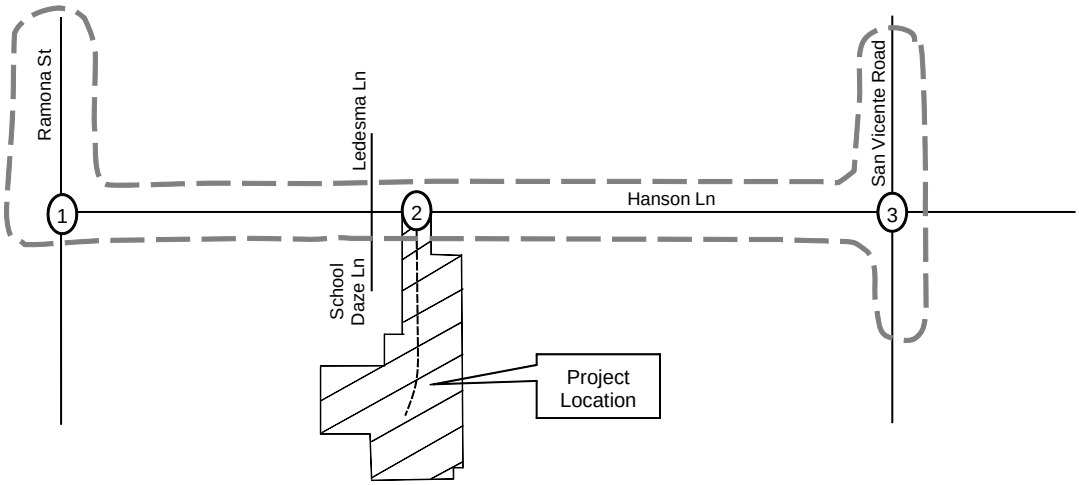


Figure 2: TIS Study Area



LEGEND

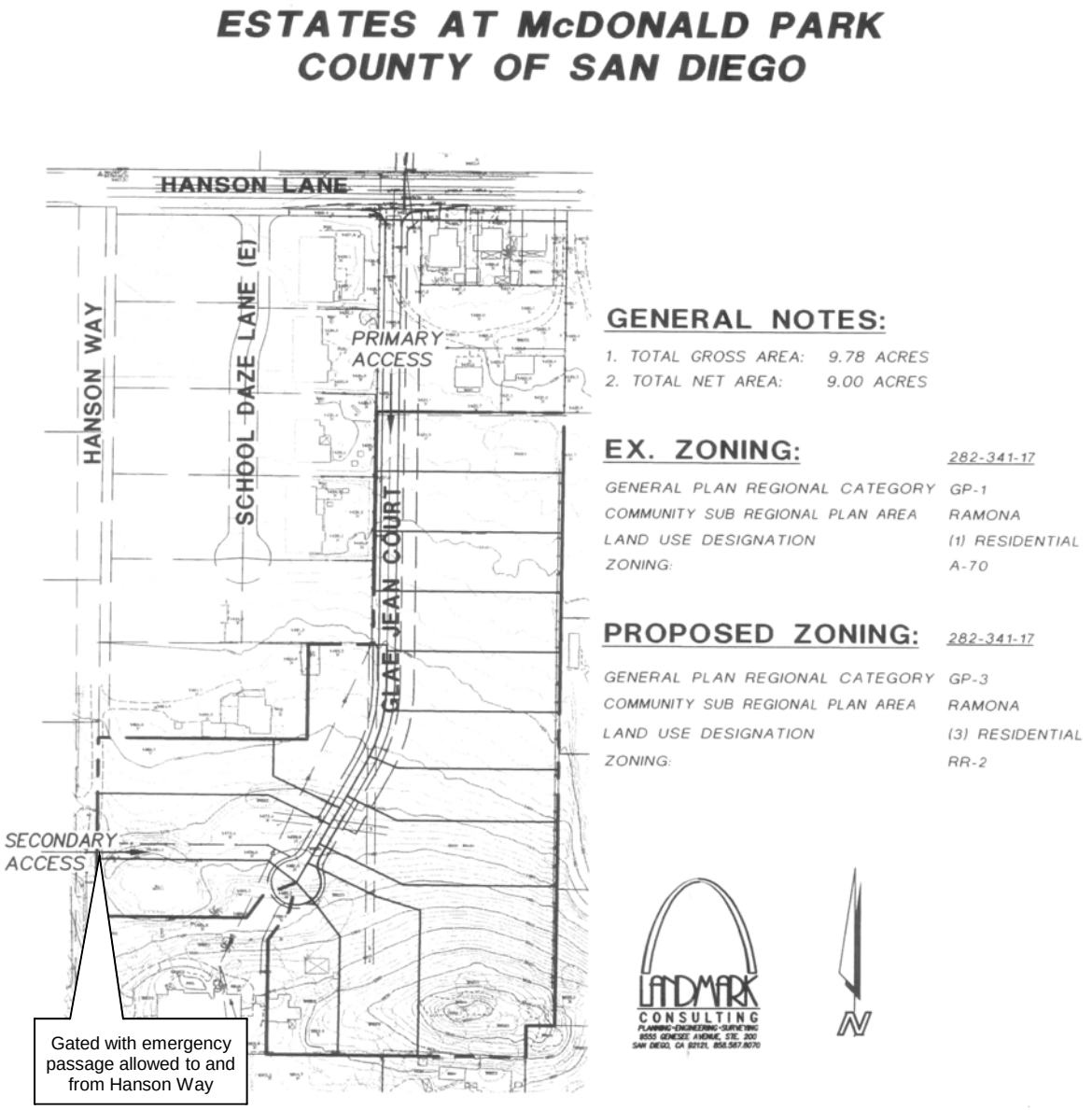
(#) Intersection Reference Number to LOS Tables

TIS Study Area

N

No Scale

Figure 3: Site Plan



Source: Landmark Consulting

1.3 Summary of Significance Criteria

This section describes traffic impact significance criteria applied to this project (based on the location of the project) and the SANDAG congestion management program requirements. The significance criteria applied to this project includes:

1) County of San Diego *Guidelines for Determining Significance and Report Format & Content Requirements Transportation and Traffic*, adopted September 26, 2006 and revised effective December 5, 2007, and
2) County of San Diego General Plan Public Facilities Element (Part XII).

1.3.1 County of San Diego Guidelines for Determining Significance

Based on the County of San Diego *Guidelines for Determining Significance and Report Format & Content Requirements Transportation and Traffic*, adopted September 26, 2006 and revised effective December 5, 2007, a project may have a direct and/or cumulative impact if the significance criteria are exceeded, as shown in **Table 1**.

TABLE 1: COUNTY OF SAN DIEGO SIGNIFICANT TRAFFIC IMPACT THRESHOLDS

Measures of Significant Project Impacts to Congestion Allowable Increases on Congested Roads and Intersections					
	Road Segments			Intersections	
Operations	2-Lane Road	4-Lane Road	6-Lane Road	Signalized	Un-signalized
LOS E	200 ADT	400 ADT	600 ADT	Delay of 2 seconds	20 peak hour trips on a critical movement
LOS F	100 ADT	200 ADT	300 ADT	Delay of 1 second, or 5 peak hour trips on a critical movement	5 peak hour trips on a critical movement

Source: County of San Diego *Guidelines for Determining Significance* Tables 1 & 2. Note: A critical movement is one that is experiencing excessive queues. By adding proposed project trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes any trips must mitigate it's share of the cumulative impacts. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity. On-site roadways are required to be at LOS C or better.

A direct impact would occur when the significance criteria are exceeded. If the proposed project exceeds the values provided in the above table, then the individually proposed project would result in a direct traffic impact. Specific improvements to mitigate direct impacts must be identified.

A cumulative impact would occur when two conditions are met: 1) build-out of all near-term projects results in a cumulative traffic impact and 2) the amount of traffic generated by the individual proposed project contributes (even in a small part) to that cumulative impact. Both conditions must be met for an individual project to result in a cumulative traffic impact. If the traffic generated from all the near-term projects (cumulative projects) would result in a cumulative traffic impact then condition one is met. If the total amount of traffic generated exceeds the values provided in the above table, then condition one is met and the individually proposed project would result in a cumulative traffic impact. Fair-share contributions toward cumulative impacts may only be provided when a specific transportation improvement project is identified and the schedule for completion of the improvement project has been identified.

Potential mitigation measures may include traffic signal improvements, physical road improvements, street re-striping and parking prohibitions, fair-share contributions, and transportation demand management programs.

1.3.2 County of San Diego General Plan Public Facilities Element (Part XII)

The County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements Transportation and Traffic* adopted September 26, 2006 and revised effective December 5, 2007 includes a summary of the Public Facilities Element of the San Diego County General Plan as follows:

> "The County of San Diego General Plan Public Facilities Element establishes policies and implementation measures regarding the assessment and mitigation of traffic impacts of new development. One of the goals of the Public Facilities Element (PFE) is to provide "A safe, convenient, and economical integrated transportation system including a wide range of transportation modes (PFE, page XII-4-18)." The PFE also identifies an objective in the Transportation Section to provide a "Level of Service C or better on County Circulation Element roads (PFE, page XII-4-18)." The PFE, however, establishes LOS D as an off-site mitigation threshold for discretionary projects. When an existing Level of Service is already D, "a LOS of D may be allowed (PFE, page XII-4-18)." According to the PFE, projects that significantly increase congestion on roads operating at LOS E or LOS F must provide mitigation. According to the PFE, this mitigation can consist of a fair-share contribution to an established program or project to mitigate the project's impacts. If impacts cannot be mitigated, the project will be denied unless a specific statement of overriding findings is made pursuant to Sections 15091 and 15093 of the State CEQA Guidelines to approve the project as proposed."

The County of San Diego significance criteria is consistent with the aforementioned summary of PFE Policy 1.1, which requires mitigation for projects that significantly increase congestion on roads operating at LOS E or LOS F.

PFE Policy 1.2 states "General Plan Amendments and Rezones shall be reviewed to ensure that any proposed increases in density or intensity of use will not prevent the planned Circulation Element road system from operating at its planned Level of Service at build out."

In summary, the County of San Diego traffic impact significance criteria covers the significance criteria identified in PFE policies 1.1 and 1.2.

1.4 SANDAG Congestion Management Program Requirements

The Congestion Management Program (CMP), adopted in January 2003 by the SANDAG Board, is intended to determine if a large project (greater than 2,400 ADT or more than 200 peak hour trips) will adversely impact the CMP transportation system. A CMP analysis is NOT included because this project is calculated to generate less than 2,400 ADT and less than 200 peak hour trips.

2.0 Existing Conditions

This section describes the study area street system, peak hour intersection volumes and daily roadway volumes.

2.1 Existing Transportation Conditions

In the vicinity of the project, only the study area roadways where project traffic is anticipated to travel were analyzed as part of this study, which included:

Hanson Lane (SA 320) is classified as a *Collector* from Ramona Street (SC 930) to San Vicente Road (SA 310) on the San Diego County Circulation Element map (A copy from the San Diego County Circulation Element Map is included in **Appendix A**). From Ramona Street to San Vicente Road, this two-lane roadway is generally constructed within approximately 48 feet of pavement with one twelve foot travel lane in each direction, a fourteen foot two-way left turn lane and a five foot bike lane on each side of the roadway. Parking is not permitted on portions of this segment. A posted speed limit of 40 MPH was observed on this segment. The 85th percentile speed on Hanson Lane (between Ramona Street and School Daze Lane/Ledesma Lane) in the eastbound direction was measured at 37 MPH and 40 MPH in the westbound direction. The 85th percentile speed on Hanson Lane (between School Daze Lane/Ledesma Lane and San Vicente Road) in the eastbound direction was measured at 38 MPH and at 38 MPH in the westbound direction.

Ramona Street (SC 930) is classified as a *Rural Collector with Bike Lanes* from Main Street to Dye Road (SA 300) on the San Diego County Circulation Element map. From Main Street to Hanson Lane, this two-lane roadway is generally constructed within approximately 34 feet of pavement with one twelve foot travel lane in each direction and a five foot bike lane on each side of the roadway. A posted speed limit of 40 MPH was observed on this segment. The 85th percentile speed on Ramona Street (north of Hanson Lane) in the northbound direction was measured at 29 MPH and 33 MPH in the southbound direction.

San Vicente Road (SA 310) is classified as a *Major Road with Bike Lanes* from Main Street to Dye Road (SA 300) on the San Diego County Circulation Element map. From Main Street to Dye Road, this two-lane roadway is generally constructed within approximately 48 feet of pavement with one twelve foot travel lane in each direction and a fourteen foot two-way left turn lane and a five foot bike lane on each side of the roadway. Parking is not permitted on this segment. A posted speed limit of 50 MPH was observed on this segment. The 85th percentile speed on San Vicente Road (north of Hanson Lane) in the northbound direction was measured at 42 MPH and 43 MPH in the southbound direction. The 85th percentile speed on San Vicente Road (south of Hanson Lane) in the northbound direction was measured at 42 MPH and 45 MPH in the southbound direction.

The 85th percentile speed data are included in **Appendix B**. The existing roadway conditions are shown in **Figure 4**.

2.1.1 Existing Traffic Volumes and LOS Analyses

Existing AM and PM peak hour and mid-day intersection volumes (with count dates) for the following intersections were collected for this study:

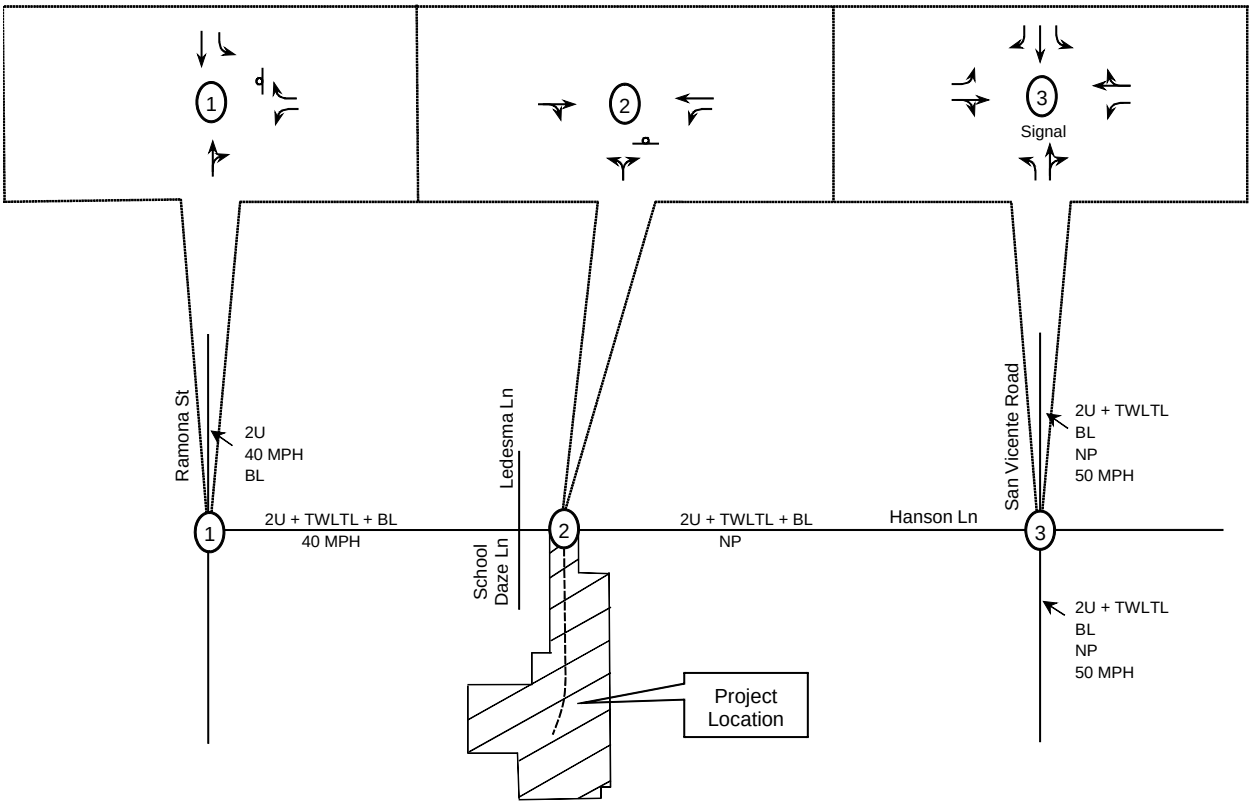
1) Ramona Street at Hanson Lane (Thursday 10/16/08)
2) San Vicente Road at Hanson Lane (Thursday 10/16/08)

Additionally, the following street segment volumes (with count dates) were analyzed as part of this study:

1) Hanson Ln from Ramona St to School Daze Ln/Ledesma Ln (Thursday 10/16/08)
2) Hanson Ln from School Daze Ln/Ledesma Ln to San Vicente Rd (Thursday 10/16/08)
3) Ramona St north of Hanson Ln (Thursday 10/16/08)
4) San Vicente Rd north of Hanson Ln (Thursday 10/16/08)
5) San Vicente Rd south of Hanson Ln (Thursday 10/16/08)

The existing AM, mid-day, PM and ADT volumes are shown on **Figure 5**, with count data included in **Appendix C**. The LOS calculated for the intersections and street segments are shown in **Tables 2 and 3**, respectively.

Figure 4: Existing Roadway Conditions



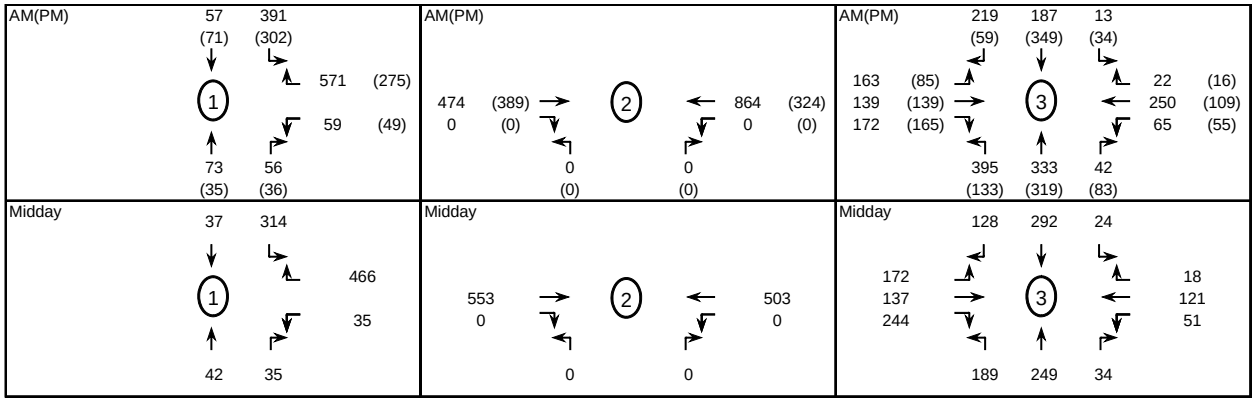
LEGEND

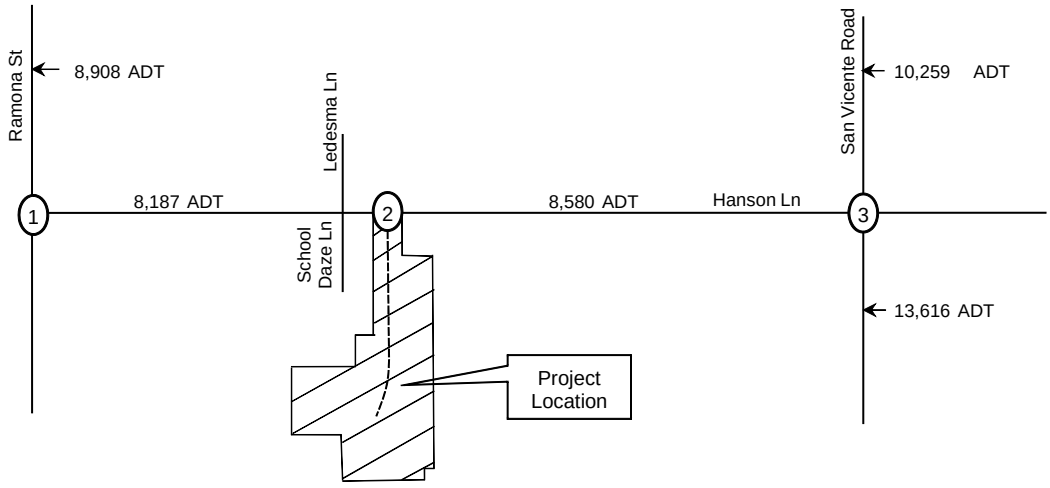
- Stop Sign
- Yield
- Through Lane
- Left Turn Lane
- Right Turn Lane
- Combination Left-Through
- Combination Left-Through-Right Lane
- Combination Right-Through
- Combination Left-Right Lane
- 2U Two Lane Undivided Roadway
- 4D Four Lane Divided Roadway
- RTOL Right Turn Over Lap
- P On-Street Parking
- TWLTL Center Two Way Left Turn Lane
- NP No Parking
- BL Bicycle Lane

N

No Scale

Figure 5: Existing Volumes





LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
MM	Midday peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
------	Future Roadways

N

No Scale

TABLE 2: EXISTING INTERSECTION LEVEL OF SERVICE

Intersection and (Analysis)[1]	Movement	Peak Hour	Existing Delay[2]	Existing LOS[3]
1) Hanson Lane at	WB R	AM	15.1	C
Ramona Street (U)	WB R	Mid-Day	12.0	B
	WB R	PM	10.0	B
2) Hanson Lane at	NB LR	AM	DNE	NA
Project Driveway (U)	NB LR	Mid-Day	DNE	NA
	NB LR	PM	DNE	NA
3) Hanson Lane at	All	AM	39.1	D
San Vicente Road (S)	All	Mid-Day	30.1	C
	All	PM	27.3	C

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service.
DNE: Does Not Exist. NA: Not Applicable.

TABLE 3: EXISTING SEGMENT ADT VOLUMES AND LEVEL OF SERVICE

Segment	Circ. Element Classification (as built)	Existing # of lanes	Daily Volume	LOS E Capacity	V/C	LOS
Hanson Lane						
From Ramona St to School Daze Ln	Collector (2U+TWLTL)	3	8,187	19,000	0.43	C
From School Daze Ln to San Vicente Rd	Collector (2U+TWLTL)	3	8,580	19,000	0.45	C
Ramona Street						
North of Hanson Ln	Rural Collector (2U)	2	8,908	16,200	0.55	D
San Vicente Road						
North of Hanson Ln	Major (2U+TWLTL)	3	10,259	19,000	0.54	D
South of Hanson Ln	Major (2U+TWLTL)	3	13,616	19,000	0.72	**E**

Notes: Classification per September 2005 Circulation Element Maps. Daily volume is a 24 hour volume.
LOS: Level of Service. V/C: Volume to Capacity ratio. BOLD indicates unacceptable LOS.

Under existing conditions, all study intersections and roadways were calculated to operate at LOS D or better, except for the segment of San Vicente Road south of Hanson Lane. Intersection LOS calculations are included in **Appendix D**.

2.2 Existing Parking, Transit and On-site Circulation

The existing site is currently vacant and thus, does not have on-site parking and nor on-site circulation.

North County Transit District (NCTD) Breeze bus route 386 serves Ramona as does Metropolitan Transit System (MTS) bus routes 891/892. Both bus routes stop near the intersection of Main Street and Ramona Street (located approximately 1 mile north of the project site). Transit maps are included in **Appendix E**.

3.0 Project Impact Analysis

3.1 Analysis Methodology

The project study area for this size of a project is generally determined by the limits or extent of where 50 or more peak hour project trips would travel for direct impact analyses and where 25 or more peak hour trips would travel for cumulative analyses, which is documented in the San Diego County *Guidelines for Determining Significance and Report Format & Content Requirements Transportation and Traffic*, adopted September 26, 2006 and revised effective December 5, 2007.

The traffic analyses prepared for this study were based on the *2000 Highway Capacity Manual* (HCM) operations analysis using Level of Service (LOS) evaluation criteria. The operating conditions of the study intersections, roadway segments, and highway segments are measured using the HCM LOS designations, which range from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition. The individual LOS criteria for each roadway component are described below.

3.1.1 Intersections

The study intersections were analyzed based on the **operational analysis** outlined in the 2000 HCM. This process defines LOS in terms of **average control delay** per vehicle, which is measured in seconds. LOS at the intersections were calculated using the computer software program Synchro 6.0 (Trafficware Corporation, 2003). The HCM LOS for the range of delay by seconds for un-signalized and signalized intersections is described in **Table 4**.

TABLE 4: UN-SIGNALIZED AND SIGNALIZED INTERSECTION LEVEL OF SERVICE (HCM 2000)

Level of Service	Un-Signalized Average Control Delay (seconds/vehicle)	Signalized Average Control Delay (seconds/vehicle)
A	0-10	0-10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50	> 80

Source: Highway Capacity Manual 2000.

3.1.2 Street Segments

The street segments were analyzed based on the functional classification of the roadway using the County of San Diego *Average Daily Vehicle Trips* capacity lookup table. The roadway segment capacity and LOS standards used to analyze street segments are summarized in **Table 5**.

TABLE 5: STREET SEGMENT DAILY CAPACITY AND LOS (COUNTY OF SAN DIEGO)

Circulation Element Road Classification	CROSS SECTION	LOS A	LOS B	LOS C	LOS D	LOS E
Expressway	126/146	<36,000	<54,000	<70,000	<86,000	<108,000
Prime Arterial	102/122	<22,200	<37,000	<44,600	<50,000	<57,000
Major Road	78/98	<14,800	<24,700	<29,600	<33,400	<37,000
Collector	64/84	<13,700	<22,800	<27,400	<30,800	<34,200
Town Collector	54/74	<3,000	<6,000	<9,500	<13,500	<19,000
Light Collector	40/60	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Collector	40/84	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Light Collector	40/60	<1,900	<4,100	<7,100	<10,900	<16,200
Recreational Parkway	40/100	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Mountain	40/100	<1,900	<4,100	<7,100	<10,900	<16,200
Non-Circulation Roads						
Residential Collector	40/60	NA	NA	<4,500	NA	NA
Residential Road	36/56	NA	NA	<1,500	NA	NA

Source: County of San Diego Department of Public Works *Public Road Standards* July 14, 1999.

3.2 Project Trip Generation

The project trip generation was calculated using SANDAG trip rates from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002. Based on SANDAG trip rates, the net traffic increase for 15 single family residences (maximum number of 15 units as described under the project description section and referenced in Appendix Exec1) is calculated at 180 ADT, 14 AM peak hour trips (4 inbound and 10 outbound), and 18 PM peak hour trips (13 inbound and 5 outbound) as shown in **Table 6**.

TABLE 6: PROJECT TRIP GENERATION

Proposed Land Use	Rate	Size & Units		ADT	%	Split		AM IN	AM OUT	%	Split		PM IN	PM OUT
Residential - Estate	12 /DU	15	DU	**180**	8%	0.3	0.7	**4**	**10**	10%	0.7	0.3	**13**	**5**

Source: SANDAG *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region,* April 2002.

DU-Dwelling Units; ADT-Average Daily Traffic; Split-percent inbound and outbound.

3.3 Project Distribution and Assignment

Project trips were distributed based on a SANDAG Select Zone Assignment (SZA) – an excerpt from the SZA is included in **Appendix F**. The distribution and assignment are shown in **Figures 6 and 7**.

This report incorporates a midday analysis due to the close proximity of Ramona High School and Olive Peirce Middle School. The SANDAG trip generation does not provide midday trip rates; therefore, the highest peak period (PM peak hour) was used for the midday analysis.

Figure 6: Near-Term Distribution

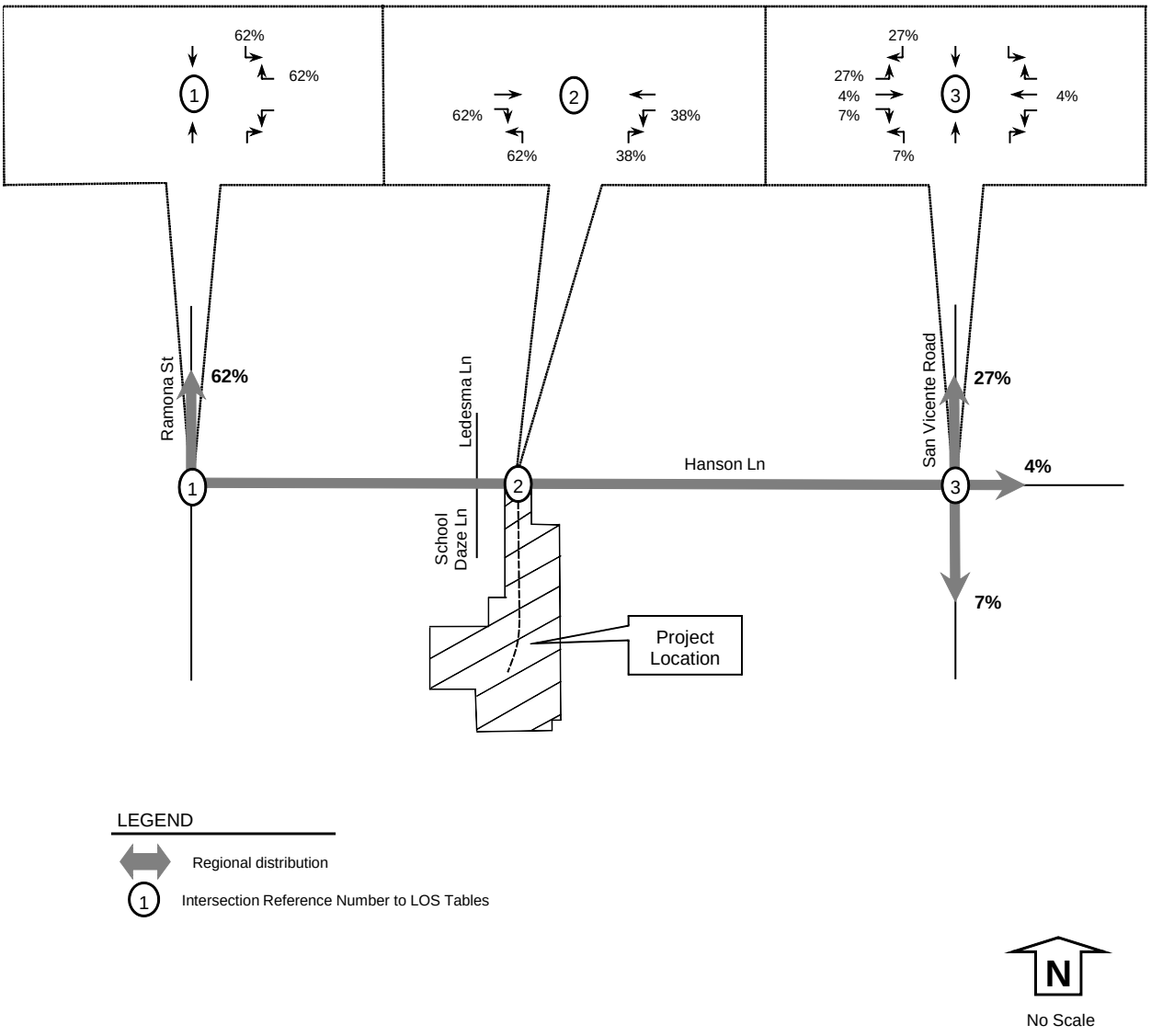
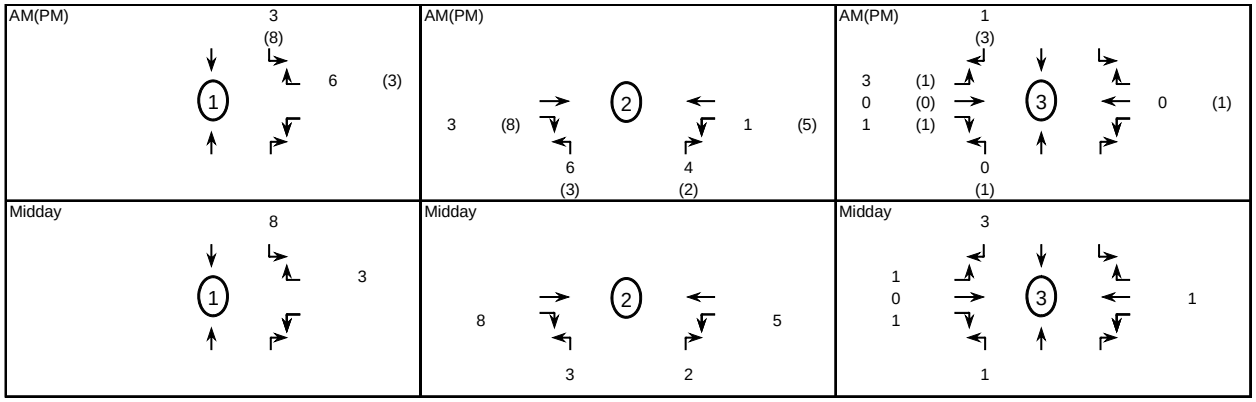
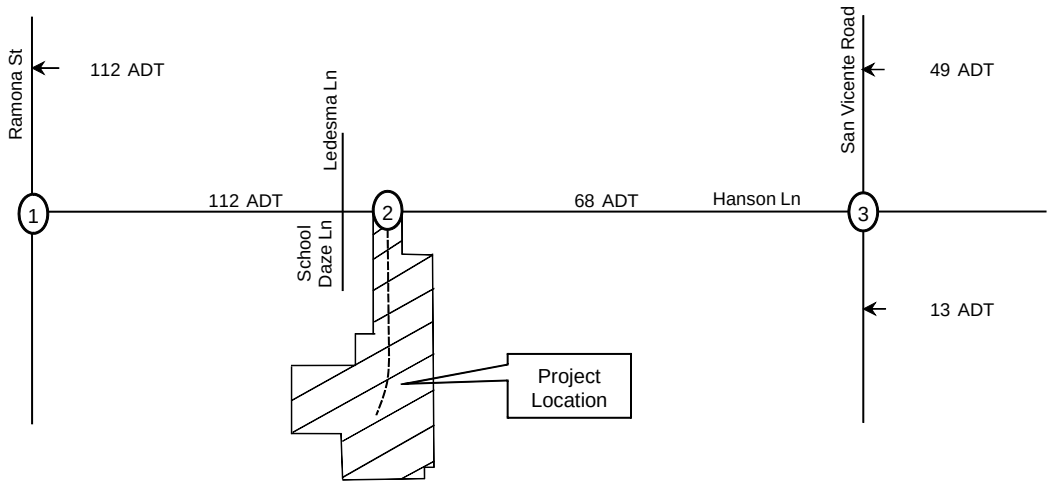


Figure 7: Near-Term Assignment





LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
MM	Midday peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
- - - - - -	Future Roadways

N

No Scale

3.4 Existing + Project Conditions

This section will summarize the analysis for the addition of project traffic onto the existing background traffic for AM, mid-day, PM and ADT conditions. The traffic analysis criteria are the same as outline in section 2.1.

The peak hour intersection volumes and daily traffic volumes for this scenario of existing + project are shown in **Figure 8**. The LOS calculated for the intersections and street segments are shown in **Tables 7 and 8**, respectively.

TABLE 7: EXISTING + PROJECT INTERSECTION LEVEL OF SERVICE

Intersection and (Analysis)[1]	Movement	Peak Hour	Existing		Existing + Project				
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	MaxCrit[5]	Sig[6]
1) Hanson Lane at	WB R	AM	15.1	C	15.3	C	0.2	6	No
Ramona Street (U)	WB R	Mid-Day	12.0	B	12.0	B	0.0	3	No
	WB R	PM	10.0	B	10.0	B	0.0	3	No
2) Hanson Lane at	NB LR	AM	DNE	NA	17.6	C	NA	6	No
Project Driveway (U)	NB LR	Mid-Day	DNE	NA	14.4	B	NA	3	No
	NB LR	PM	DNE	NA	13.2	B	NA	3	No
3) Hanson Lane at	All	AM	39.1	D	39.1	D	0.0	3	No
San Vicente Road (S)	All	Mid-Day	30.1	C	30.2	C	0.1	3	No
	All	PM	27.3	C	27.5	C	0.2	3	No

Notes: 1) Intersection Analysis: (S) Signalized, (U) Unsignalized. 2) Delay: HCM Average Control Delay in seconds. 3) LOS: Level of Service. 4) Delta is the increase in delay from project. 5) Maximum Critical Movement Volume. 6) Significant Impact? (yes or no).

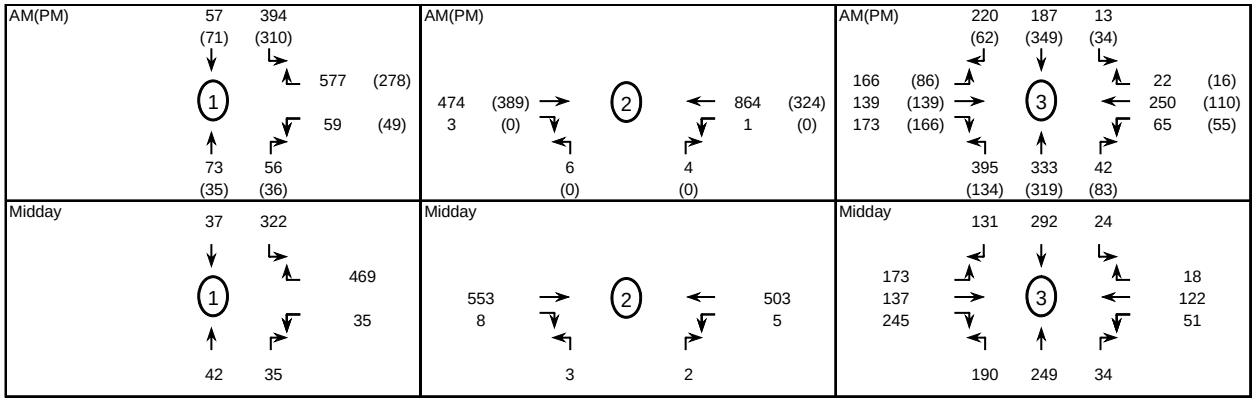
TABLE 8: EXISTING + PROJECT SEGMENT ADT VOLUMES AND LEVEL OF SERVICE

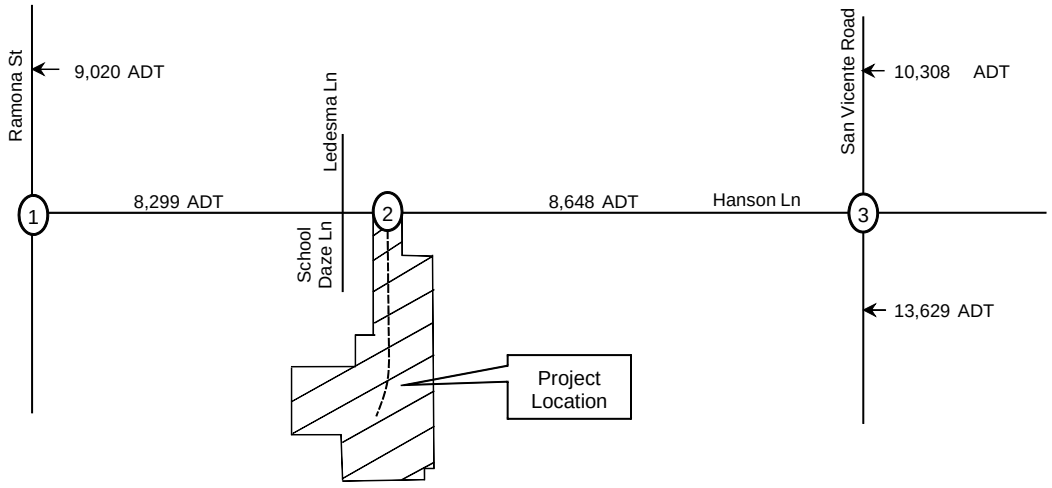
Segment	Circ. Element Classification (as built)	Existing				Project	Existing + Project					
		Daily Volume	LOS E Capacity	V/C	LOS	Daily Volume	Daily Volume	LOS E Capacity	V/C	LOS	Change in V/C	Direct Impact?
Hanson Lane												
From Ramona St to School Daze Ln	Collector (2U+TWLTL)	8,187	19,000	0.431	C	112	8,299	19,000	0.437	C	0.006	No
From School Daze Ln to San Vicente Rd	Collector (2U+TWLTL)	8,580	19,000	0.452	C	68	8,648	19,000	0.455	C	0.004	No
Ramona Street												
North of Hanson Ln	Rural Collector (2U)	8,908	16,200	0.550	D	112	9,020	16,200	0.557	D	0.007	No
San Vicente Road												
North of Hanson Ln	Major (2U+TWLTL)	10,259	19,000	0.540	D	49	10,308	19,000	0.543	D	0.003	No
South of Hanson Ln	Major (2U+TWLTL)	13,616	19,000	0.717	**E**	13	13,629	19,000	0.717	**E**	0.001	No

Notes: Classification per September 2005 Circulation Element Maps. Daily volume is a 24 hour volume.
LOS: Level of Service. V/C: Volume to Capacity ratio. BOLD indicates unacceptable LOS.

Under existing + project conditions, all study intersections and roadways were calculated to operate at LOS D or better, except for the segment of San Vicente Road south of Hanson Lane. Direct impacts were not calculated based on the County of San Diego significance criteria. Intersection LOS calculations are included in **Appendix G.**

Figure 8: Existing + Project Volumes





LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
MM	Midday peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
------	Future Roadways

N

No Scale

3.5 Near-Term + Existing Cumulative Conditions

This section will analyze the near-term conditions (consisting of existing + cumulative projects). Cumulative project volumes were extracted from the SANDAG Series 10 Cities/County forecast through subtracting existing volumes from the forecast. The SANDAG Series 10 traffic model was used as the source for cumulative volumes because:

1) The Series 10 traffic model is locally calibrated,
2) The Series 10 traffic model output has been disclosed to various Ramona planning groups,
3) The GP Update is also using a Series 10 traffic model, and
4) The Series 10 traffic model incorporates build-out land uses.

Because the Series 10 model incorporates build-out land uses, all proposed and potential cumulative projects are incorporated. The only cumulative projects that would not be accounted for are projects that are inconsistent with the zoning. To account for such cumulative projects, a list of inconsistent cumulative projects was assembled and their volumes were manually assigned to the study area roadways. Cumulative volumes were manually assigned for the following cumulative projects:

1) TM 4962 M.D.S. Dev. Corp. A residential project of 30 lots on 75 acres.

2) TM 5008 Ramona Ridge Estates. A residential project of 25 lots on 219 acres.

3) TM 5194 Teyssier. A residential project of 37 lots on 289 acres.

4) TM 5198 Rancho Esquilago. A residential project of 38 lots on 147 acres.

5) TM 5254 Development Venture. A residential project of 67 lots on 327 acres.

6) TM 5257 Sunset Vista. A residential project of 7 lots on 9 acres.

7) TM 5267 Roberts. A residential project of 8 lots on 50 acres.

8) TM 5307 Lakeside Ventures. A residential project of 8 lots on 202 acres.

9) TM 5480 Valley Park Condominiums. A residential project of 62 residences on 2.9 acres.

10) TPM 20466 Ramona. A residential project of 2 residences on 19 acres.

11) TPM 20564 McCandless. A residential project of 5 residences on 41 acres.

12) TPM 20747 Kvaas. A residential project of 5 residences on 60 acres.

13) TPM 20900 Edbell Parcel Map. A residential project of 1 residence on 96 acres.

14) TPM 20907 Harman. A residential project of 4 residences on 195 acres.

15) TPM 20926 Filippini Parcel Map. A residential project of 2 residences on 9 acres.

16) TPM 20962 Neuman. A residential project of 4 residences on 39 acres.

17) TPM 21042 Spitsbergen. A residential project of 3 residences on 137 acres.

18) TPM 21051 Highland Valley. A residential project of 3 residences on 38 acres.

19) Montecito Ranch. A mixed use project of 417 residences, a 20 acre park and a school.

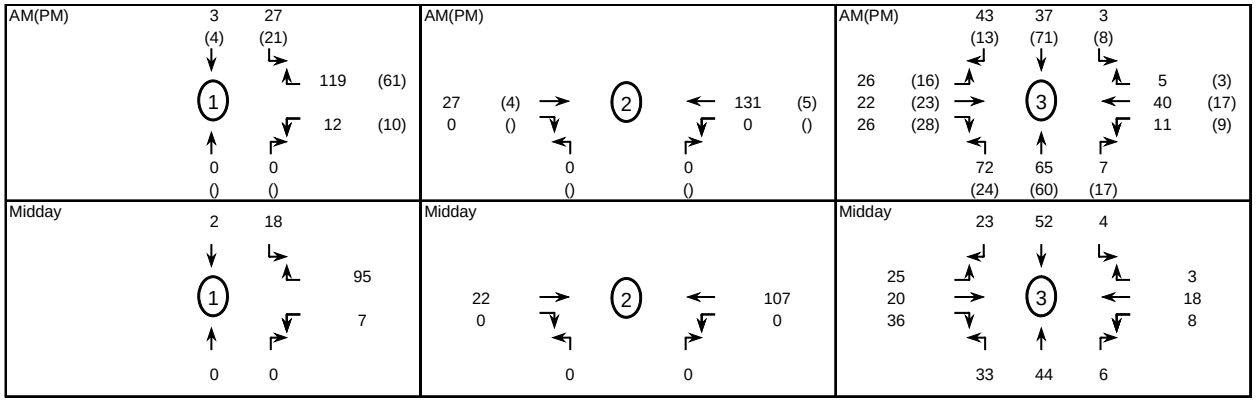
20) Ramona Air Center. An aircraft and aviation use project.

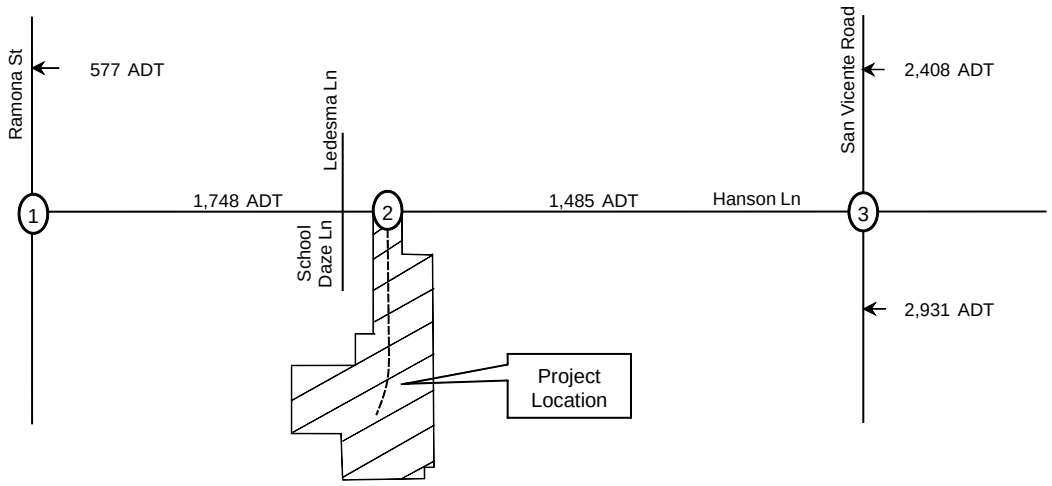
21) Kelly Avenue. A residential project of 11 multi-family homes.

The addition of cumulative volumes from the Series 10 model added to the aforementioned list of inconsistent cumulative project volumes equals the final cumulative project volumes, which are shown on **Figure 9** with support data included in **Appendix H**.

The near-term traffic conditions were determined by adding the Series 10 based cumulative volumes with the aforementioned cumulative volumes onto existing traffic. The peak hour intersection volumes and daily traffic volumes for this scenario of near-term (existing + cumulative projects) are shown in **Figure 10**.

Figure 9: Cumulative Project Volumes





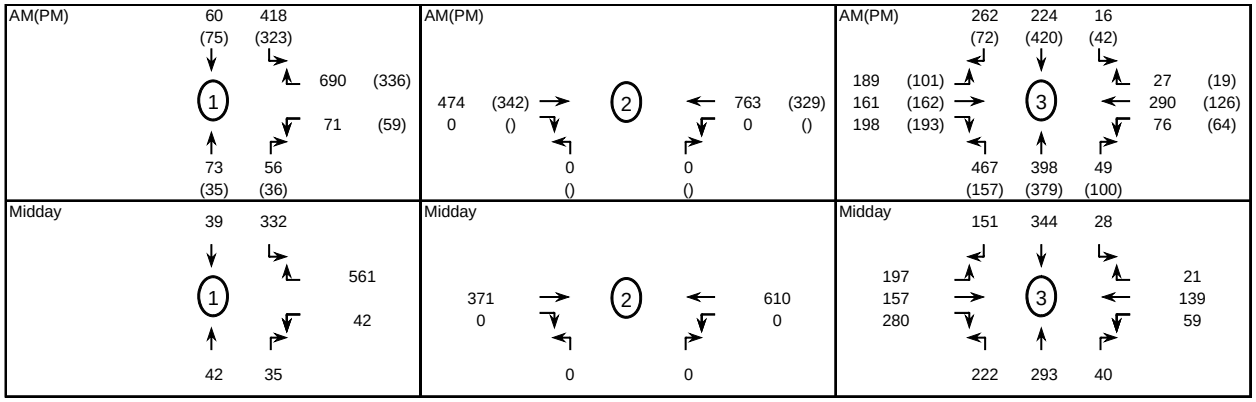
LEGEND

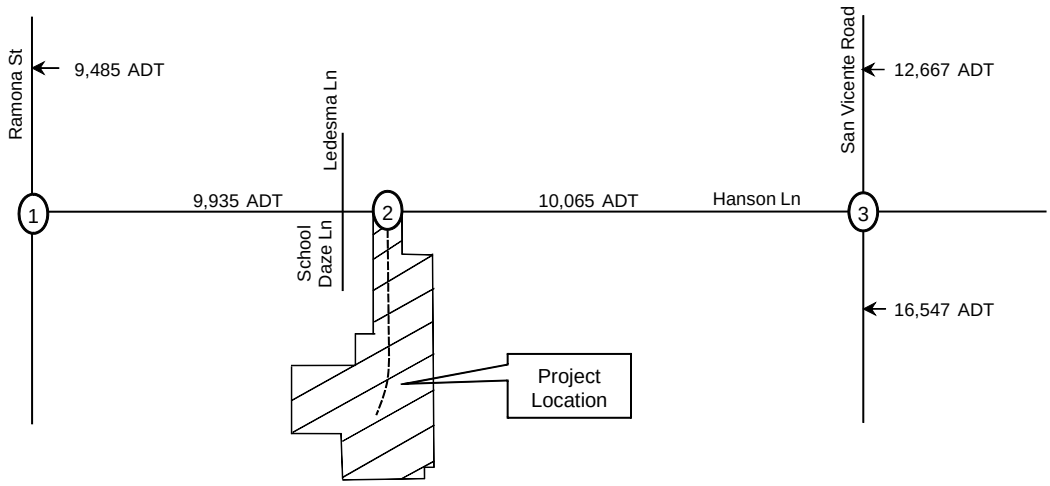
XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
MM	Midday peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
- - - - - -	Future Roadways

N

No Scale

Figure 10: Near-Term + Existing Volumes





LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
MM	Midday peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
- - - - - -	Future Roadways

N

No Scale

The LOS calculated for the intersections and street segments are shown in **Tables 9 and 10**, respectively.

TABLE 9: NEAR-TERM + EXISTING INTERSECTION LEVEL OF SERVICE

Intersection and (Analysis)[1]	Movement	Peak Hour	Existing		Near-Term	
			Delay[2]	LOS[3]	Delay[2]	LOS[3]
1) Hanson Lane at	WB R	AM	15.1	C	20.0	C
Ramona Street (U)	WB R	Mid-Day	12.0	B	13.6	B
	WB R	PM	10.0	B	10.5	B
2) Hanson Lane at	NB LR	AM	DNE	NA	DNE	NA
Project Driveway (U)	NB LR	Mid-Day	DNE	NA	DNE	NA
	NB LR	PM	DNE	NA	DNE	NA
3) Hanson Lane at	All	AM	39.1	D	48.9	D
San Vicente Road (S)	All	Mid-Day	30.1	C	34.9	C
	All	PM	27.3	C	31.4	C

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service.
DNE: Does Not Exist. NA: Not Applicable.

TABLE 10: NEAR-TERM + EXISTING SEGMENT ADT VOLUMES AND LEVEL OF SERVICE

Segment	Classification (as built)	Existing				Cumulative	Near-Term			
		Daily Volume	LOS E Capacity	V/C	LOS	Daily Volumes	Daily Volume	LOS E Capacity	V/C	LOS
Hanson Lane										
From Ramona St to School Daze Ln	Collector (2U+TWLTL)	8,187	19,000	0.431	C	1,748	9,935	19,000	0.523	D
From School Daze Ln to San Vicente Rd	Collector (2U+TWLTL)	8,580	19,000	0.452	C	1,485	10,065	19,000	0.530	D
Ramona Street										
North of Hanson Ln	Rural Collector (2U)	8,908	16,200	0.550	D	577	9,485	16,200	0.585	D
San Vicente Road										
North of Hanson Ln	Major (2U+TWLTL)	10,259	19,000	0.540	D	2,408	12,667	19,000	0.667	D
South of Hanson Ln	Major (2U+TWLTL)	13,616	19,000	0.717	**E**	2,931	16,547	19,000	0.871	**E**

Notes: Classification per County Circulation Element Maps. Daily volume is a 24 hour volume.
LOS: Level of Service. V/C: Volume to Capacity ratio. BOLD indicates unacceptable LOS.

Under near-term + existing conditions, the study area roadways are calculated to operate at LOS D or better, except for the segment of San Vicente Road south of Hanson Lane. Intersection LOS calculations are included in **Appendix I.**

3.6 Near-Term + Existing + Project Conditions

This scenario accounts for the addition of project traffic onto the existing + near-term cumulative traffic for AM, mid-day, PM and ADT conditions. The peak hour intersection volumes and daily traffic volumes are shown in **Figure 11**.

The LOS calculated for the intersections and street segments are shown in **Tables 11 and 12**, respectively.

TABLE 11: NEAR-TERM + EXISTING + PROJECT INTERSECTION LEVEL OF SERVICE

Intersection and (Analysis)[1]	Movement	Peak Hour	Existing		Near-Term + Existing + Project			
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Cumulative Impact?
1) Hanson Lane at	WB R	AM	15.1	C	20.4	C	5.3	No
Ramona Street (U)	WB R	Mid-Day	12.0	B	13.7	B	1.7	No
	WB R	PM	10.0	B	10.5	B	0.5	No
2) Hanson Lane at	NB LR	AM	DNE	NA	20.4	C	NA	No
Project Driveway (U)	NB LR	Mid-Day	DNE	NA	16.0	C	NA	No
	NB LR	PM	DNE	NA	12.7	B	NA	No
3) Hanson Lane at	All	AM	39.1	D	52.1	D	13.0	No
San Vicente Road (S)	All	Mid-Day	30.1	C	35.6	D	5.5	No
	All	PM	27.3	C	31.4	C	4.1	No

Notes: 1) Intersection Analysis: (S) Signalized, (U) Unsignalized. 2) Delay: HCM Average Control Delay in seconds. 3) LOS: Level of Service.
4) Delta is the increase in delay from existing conditions.

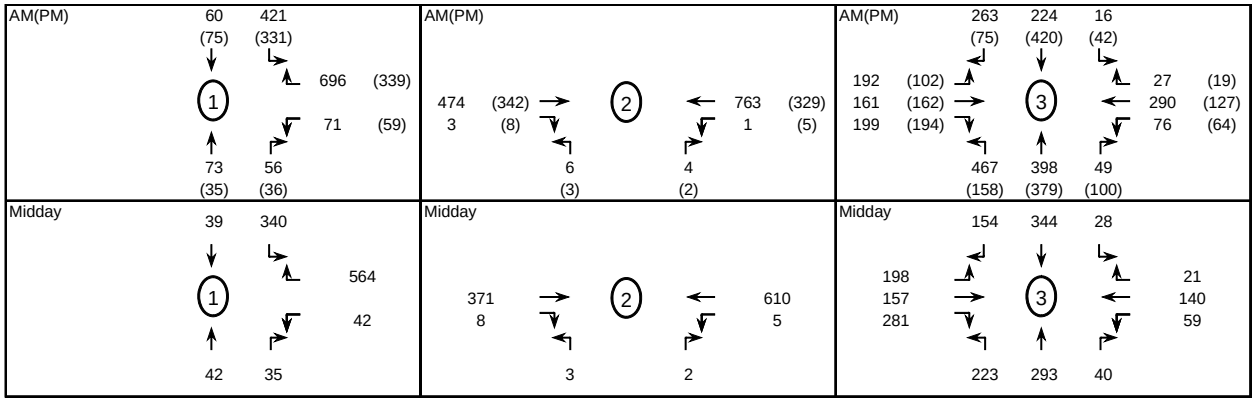
TABLE 12: NEAR-TERM + EXISTING + PROJECT SEGMENT ADT VOLUMES AND LEVEL OF SERVICE

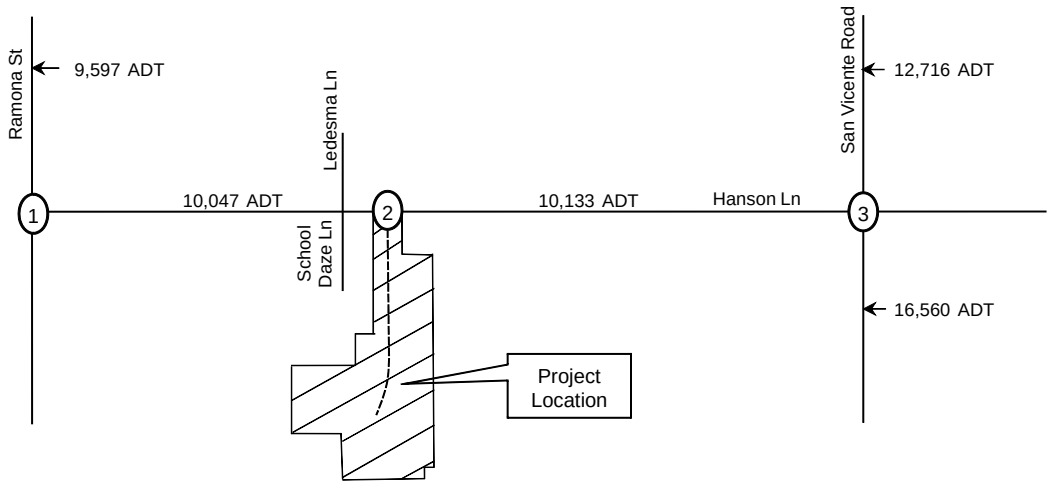
Segment	Classification (as built)	Existing				Cumulative	Project	Near-Term + Existing + Cumulative				
		Daily Volume	LOS E Capacity	V/C	LOS	Daily Volumes	Daily Volumes	Daily Volume	LOS E Capacity	V/C	LOS	Cumulative Impact?
Hanson Lane												
From Ramona St to School Daze Ln	Collector (2U+TWLTL)	8,187	19,000	0.431	C	1,748	112	10,047	19,000	0.529	D	No
From School Daze Ln to San Vicente Rd	Collector (2U+TWLTL)	8,580	19,000	0.452	C	1,485	68	10,133	19,000	0.533	D	No
Ramona Street												
North of Hanson Ln	Rural Collector (2U)	8,908	16,200	0.550	D	577	112	9,597	16,200	0.592	D	No
San Vicente Road												
North of Hanson Ln	Major (2U+TWLTL)	10,259	19,000	0.540	D	2,408	49	12,716	19,000	0.669	D	No
South of Hanson Ln	Major (2U+TWLTL)	13,616	19,000	0.717	**E**	2,931	13	16,560	19,000	0.872	**E**	**Yes**

Notes: Classification per County Circulation Element Maps. Daily volume is a 24 hour volume.
LOS: Level of Service. V/C: Volume to Capacity ratio. BOLD indicates unacceptable LOS.

Under near-term + existing + project conditions, all study intersections and roadways were calculated to operate at LOS D or better, except for the segment of San Vicente Road south of Hanson Lane. The project is calculated to have a cumulative impact to this aforementioned segment because the combination of the project traffic and the cumulative traffic exceeds the significance thresholds. Intersection LOS calculations are included in **Appendix J.**

Figure 11: Near-Term + Existing + Project Volumes





LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
MM	Midday peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
- - - - - -	Future Roadways

N

No Scale

3.7 Horizon Year Conditions

A horizon year analysis was prepared because the project is proposing to change the existing zoning. The horizon year conditions were based on the more conservative (i.e. higher) volumes between the SANDAG Series 10 and Series 11 traffic models for the study area roadways. Excerpts from both traffic models are included in **Appendix K**.

The horizon year roadway conditions are different than current conditions. Therefore, the horizon year roadways and intersections that currently do not exist or are not built-out were analyzed with intersection lane configurations that match the segment classifications (i.e. collector classification with 4 lanes would have an intersection approach leg with a separate left turn lane, a through lane, and a combination through-right turn lane). For the existing intersections, the current lane configurations were utilized unless there was unacceptable LOS. If unacceptable LOS were calculated, then additional lanes were added to match the roadway classifications. The roadway segment capacities were based on the current roadway classification except for Ramona Street north of Hanson Lane, which is identified as a Town Collector in the January 2008 TIF Update (TIF excerpts included in **Appendix L**). The horizon year roadway configurations utilized in the intersection LOS analyses are shown in **Figure 12**.

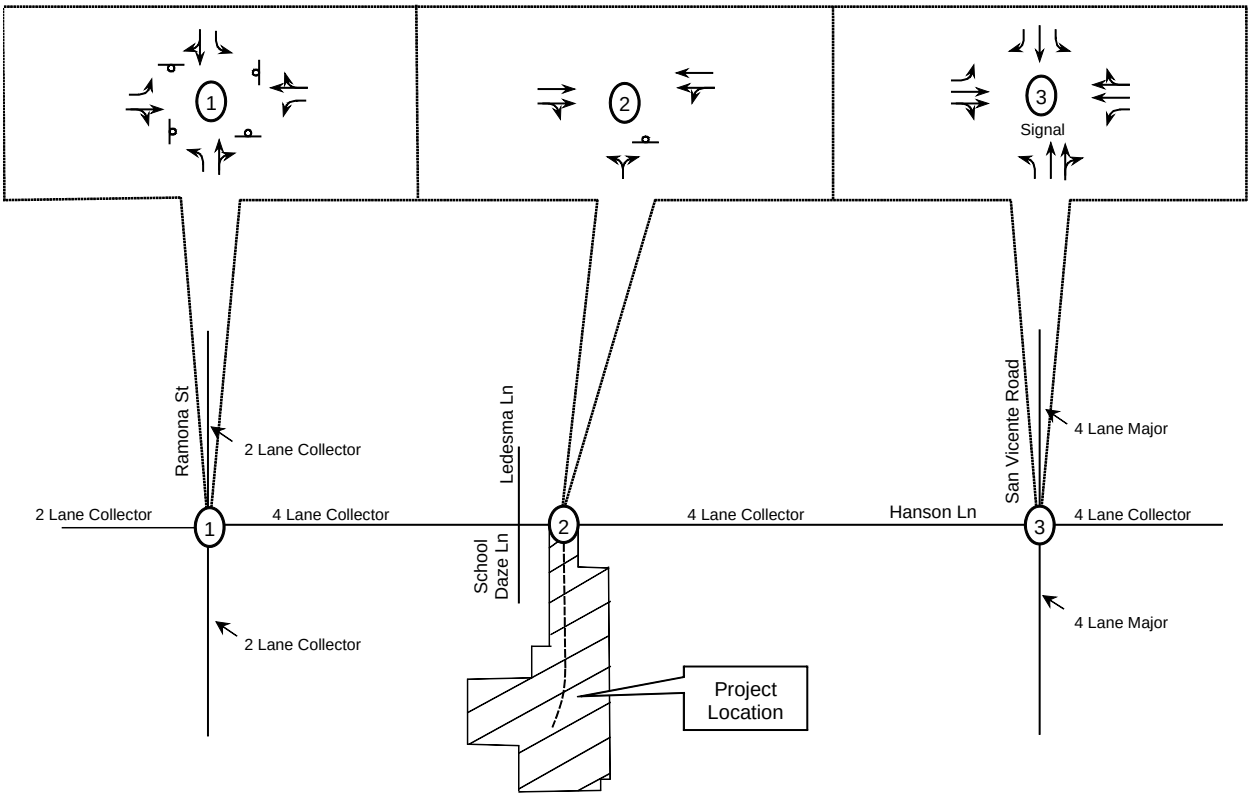
The horizon year scenario accounts for the build-out conditions for AM, Mid-day, PM, and ADT conditions. The peak hour intersection volumes and daily traffic volumes were obtained from the SANDAG Series 10 traffic model. The midday volumes were interpolated from near-term conditions. The turn moves were obtained from the traffic model for the additional leg at the intersection of Ramona St at Hanson Ln; however, if there was no traffic assigned to a particular movement, then a minimum of 10 peak hour trips was assigned (SANDAG turn moves are included in **Appendix M**). The traffic model volumes are shown in **Figure 13**. The LOS calculated for the intersections and street segments are shown in **Tables 13 and 14**, respectively.

TABLE 13: HORIZON YEAR INTERSECTION LEVEL OF SERVICE

Intersection and (Analysis)[1]	Movement	Peak Hour	Horizon Year	
			Delay[2]	LOS[3]
1) Hanson Lane at	All	AM	13.9	B
Ramona Street (U)	All	Mid-Day	9.4	A
	All	PM	17.7	C
2) Hanson Lane at	NB LR	AM	DNE	NA
Project Driveway (U)	NB LR	Mid-Day	DNE	NA
	NB LR	PM	DNE	NA
3) Hanson Lane at	All	AM	39.7	D
San Vicente Road (S)	All	Mid-Day	27.0	C
	All	PM	23.7	C

Notes: 1) Intersection Analysis - (S) Signalized, (U) Unsignalized. 2) Delay - HCM Average Control Delay in seconds. 3) LOS: Level of Service.
DNE: Does Not Exist. NA: Not Applicable.

Figure 12: Horizon Year Roadway Conditions



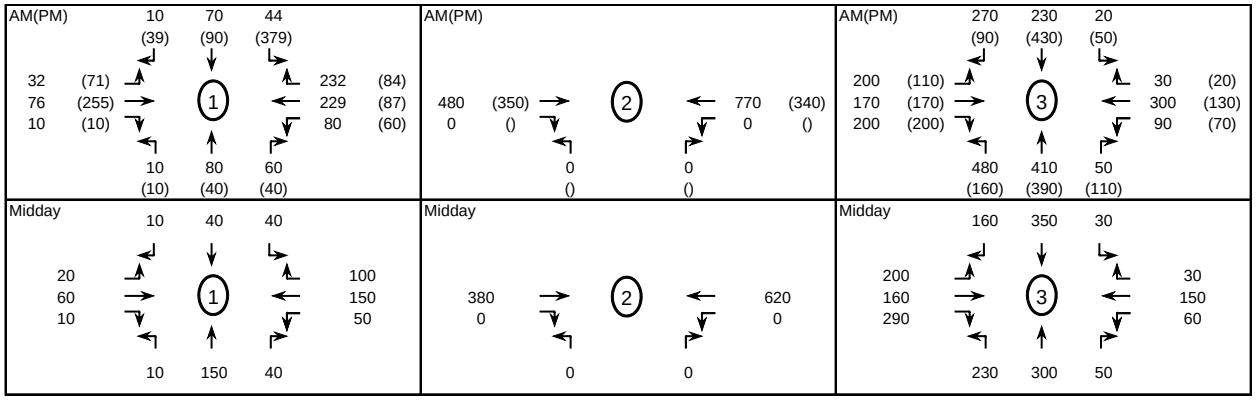
LEGEND

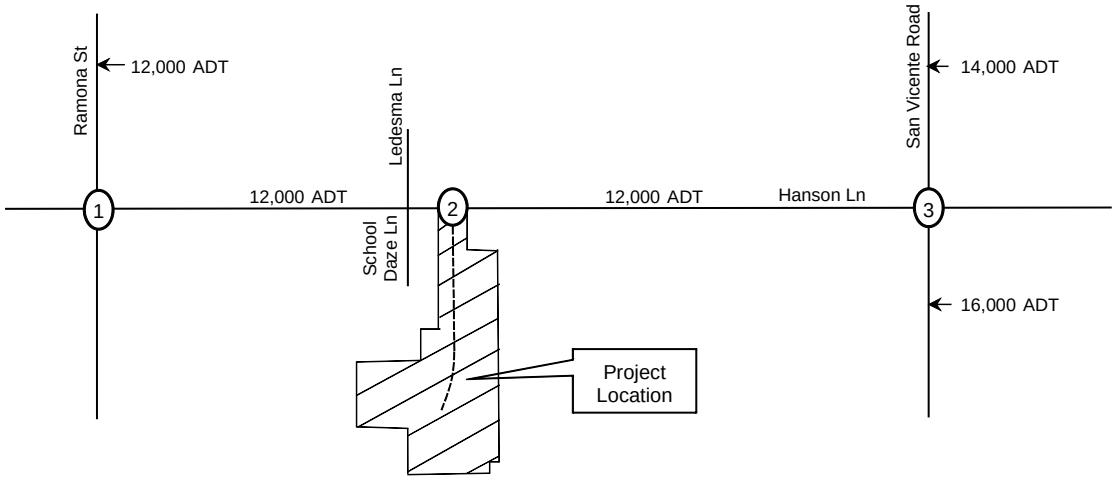
- Stop Sign
- Yield
- Through Lane
- Left Turn Lane
- Right Turn Lane
- Combination Left-Through
- Combination Left-Through-Right Lane
- Combination Right-Through
- Combination Left-Right Lane
- 2U Two Lane Undivided Roadway
- 4D Four Lane Divided Roadway
- RTOL Right Turn Over Lap
- P On-Street Parking
- TWLTL Center Two Way Left Turn Lane
- NP No Parking
- BL Bicycle Lane

N

No Scale

Figure 13: Horizon Year Volumes





LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
MM	Midday peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
----------	Dirt Roadways
- - - - - -	Future Roadways

N

No Scale

TABLE 14: HORIZON YEAR SEGMENT ADT VOLUMES AND LEVEL OF SERVICE

Segment	Circulation Element Classification	Horizon Year Daily Volume	Horizon Year LOS E Capacity	Horizon Year V/C	Horizon Year LOS
Hanson Lane					
From Ramona St to School Daze Ln	Collector	12,000	34,200	0.351	A
From School Daze Ln to San Vicente Rd	Collector	12,000	34,200	0.351	A
Ramona Street					
North of Hanson Ln	Town Collector(1)	12,000	19,000	0.632	D
San Vicente Road					
North of Hanson Ln	Major	14,000	37,000	0.378	A
South of Hanson Ln	Major	16,000	37,000	0.432	B

Notes: Classification per County Circulation Element Maps. Daily volume is a 24 hour volume. LOS: Level of Service.
V/C: Volume to Capacity ratio. (1) TIF program identified this segment as Town Collector.

Under horizon year conditions, all study intersections and segments are calculated to operate at LOS D or better. Intersection LOS calculations are included in **Appendix N**.

3.8 Horizon Year + Project Conditions

The horizon year project distribution is different than near-term conditions because of modeled horizon year roadway network. To account for the future roadway network, a horizon year distribution and assignment was prepared to match the SZA as shown in **Appendix O**. The Horizon Year distribution and assignment are shown in **Figures 14 and 15**, respectively.

This scenario accounts for the build-out + project conditions for AM, Midday, PM and ADT conditions. Because the project proposes to change the existing zoning, the project volumes were added on top of the horizon year volumes. The LOS calculated for the intersections and street segments are shown in **Tables 15 and 16**, respectively.

TABLE 15: HORIZON YEAR + PROJECT INTERSECTION LEVEL OF SERVICE

Intersection and (Analysis)[1]	Movement	Peak Hour	Horizon Year Delay[2]	Horizon Year LOS[3]	Horizon Year + Project Delay[2]	Horizon Year + Project LOS[3]	Delta[4]	MaxCrit[5]	Sig[5]
1) Hanson Lane at	All	AM	13.9	B	14.2	B	0.3	4	No
Ramona Street (U)	All	Mid-Day	9.4	A	9.5	A	0.1	5	No
	All	PM	17.7	C	18.3	C	0.6	5	No
2) Hanson Lane at	NB LR	AM	DNE	NA	25.3	D	NA	6	No
Project Driveway (U)	NB LR	Mid-Day	DNE	NA	17.1	C	NA	3	No
	NB LR	PM	DNE	NA	13.5	B	NA	3	No
3) Hanson Lane at	All	AM	39.7	D	40.0	D	0.3	3	No
San Vicente Road (S)	All	Mid-Day	27.0	C	27.1	C	0.1	3	No
	All	PM	23.7	C	23.8	C	0.1	3	No

Notes: 1) Intersection Analysis: (S) Signalized, (U) Unsignalized. 2) Delay: HCM Average Control Delay in seconds. 3) LOS: Level of Service.
4) Delta is the increase in delay from project. 5) Maximum Critical Movement Volume. 6) Significant Impact? (yes or no).

Figure 14: Horizon Year Distribution

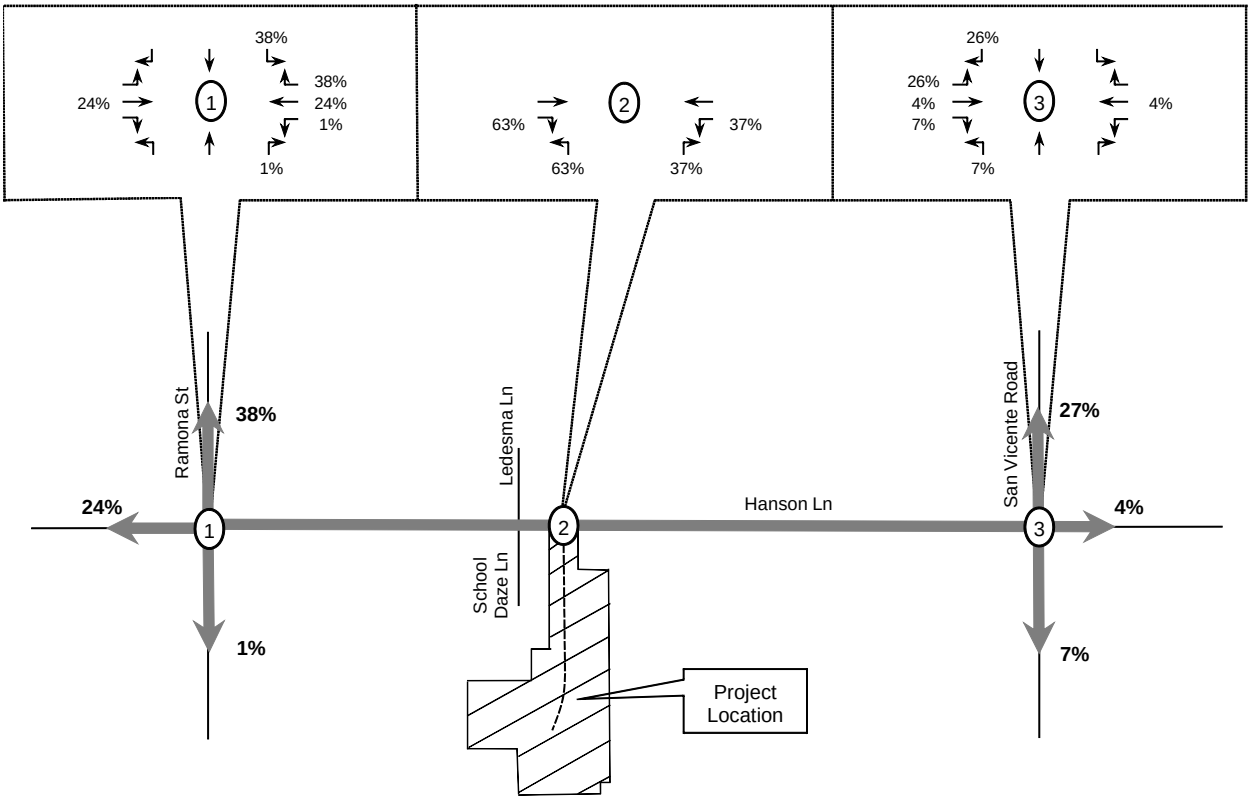
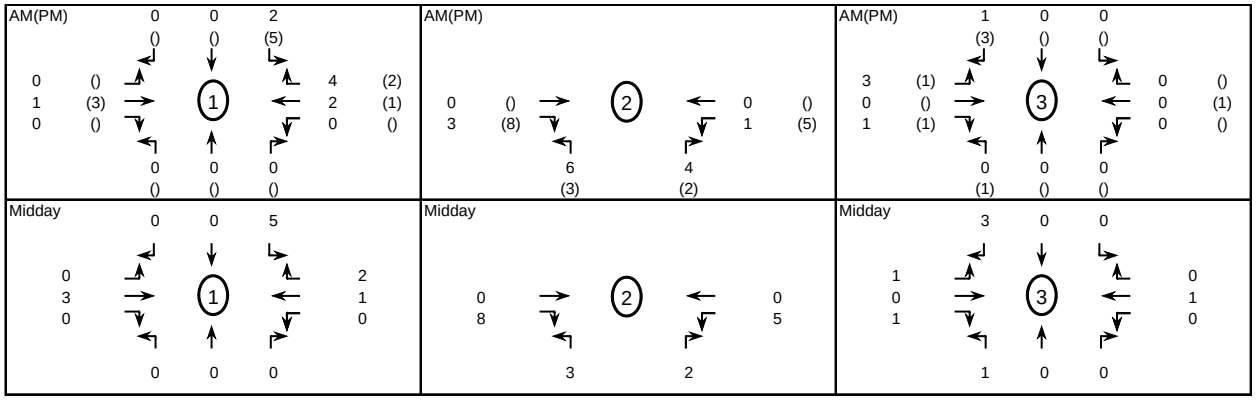
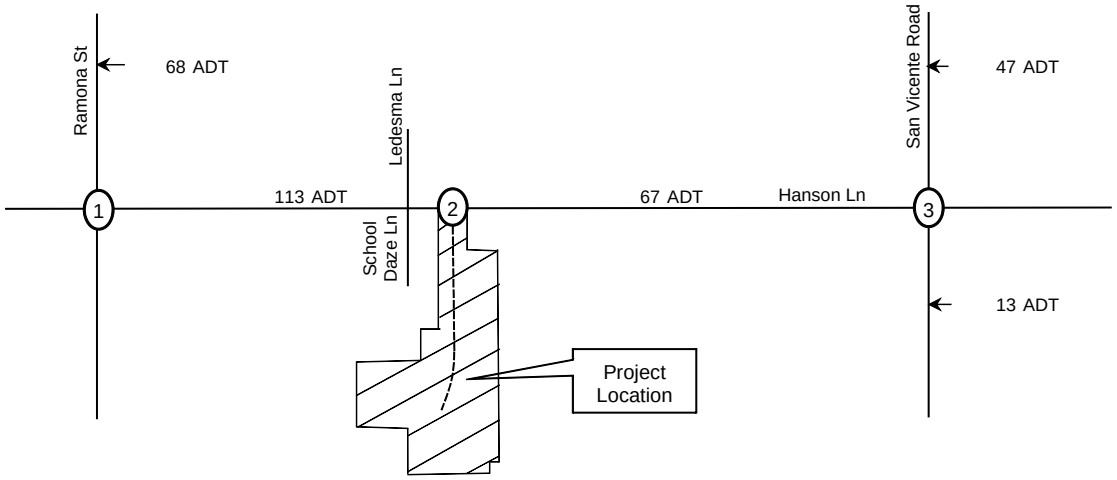


Figure 15: Horizon Year Assignment





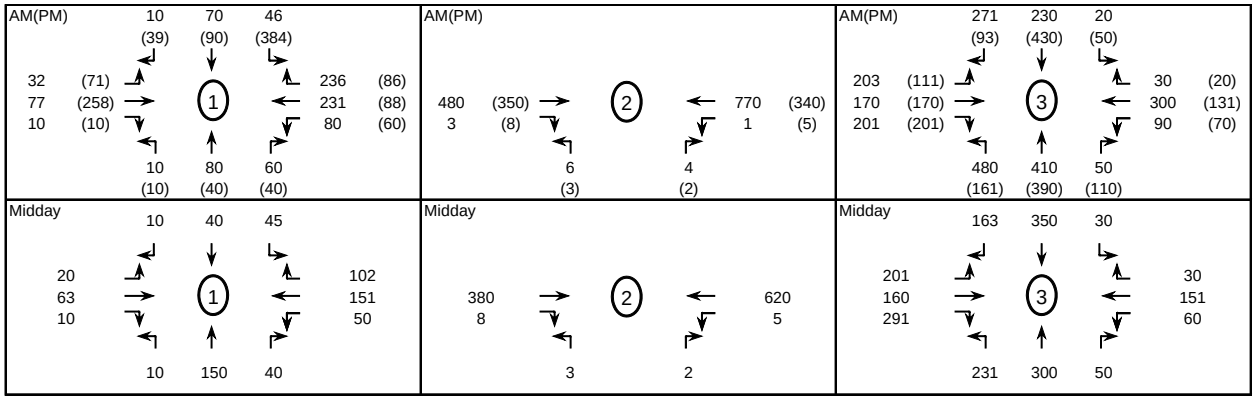
LEGEND

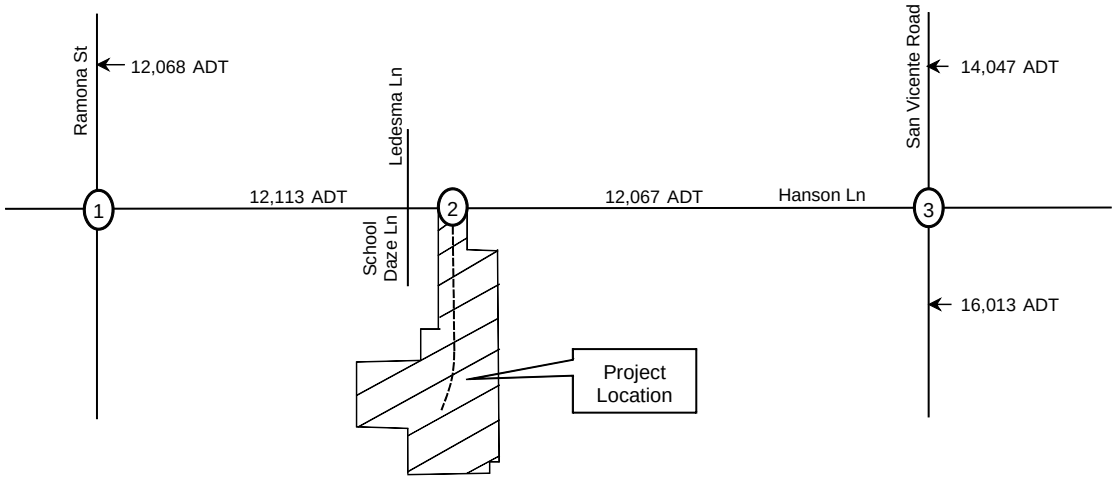
XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
MM	Midday peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
----------	Dirt Roadways
- - - - - -	Future Roadways

N

No Scale

Figure 16: Horizon Year + Project Volumes





LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
MM	Midday peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
———	Existing Roadways
----------	Dirt Roadways
- - - - - -	Future Roadways

N

No Scale

TABLE 16: HORIZON YEAR + PROJECT SEGMENT ADT VOLUMES AND LEVEL OF SERVICE

Segment	Circulation Element Classification	Horizon Year				Project	Horizon Year + Project				
		Daily Volume	LOS E Capacity	V/C	LOS	Daily Volumes	Daily Volume	LOS E Capacity	V/C	LOS	Significant Impact?
Hanson Lane											
From Ramona St to School Daze Ln	Collector	12,000	34,200	0.351	A	113	12,113	34,200	0.354	A	No
From School Daze Ln to San Vicente Rd	Collector	12,000	34,200	0.351	A	67	12,067	34,200	0.353	A	No
Ramona Street											
North of Hanson Ln	Town Collector(1)	12,000	19,000	0.632	D	68	12,068	16,200	0.745	D	No
San Vicente Road											
North of Hanson Ln	Major	14,000	37,000	0.378	A	47	14,047	37,000	0.380	A	No
South of Hanson Ln	Major	16,000	37,000	0.432	B	13	16,013	37,000	0.433	B	No

Notes: Classification per County Circulation Element Maps. Daily volume is a 24 hour volume. LOS: Level of Service.
V/C: Volume to Capacity ratio. (1) TIF program identified this segment as Town Collector.

Under horizon year + project conditions, all study intersections and segments are calculated to operate at LOS D or better. Intersection LOS calculations are included in **Appendix P**.

3.9 Ramps

A ramp analysis is not required because no grade separated freeways with on-ramps are located in the vicinity of the project.

3.10 Congestion Management Program

A CMP analysis is not required because the project is calculated to generate less than 2,400 ADT and less than 200 peak hour trips.

3.11 Hazards Due to an Existing Transportation Design Feature

This section documents how the project will interface with the exiting roadway network.

3.11.1 Project Driveway Corner Sight Distance Analysis

A corner sight distance analysis was prepared for the project driveway to be located on Hanson Lane. The project driveway meets the County corner sight distance requirements as shown in **Table 17** with pictures included in **Appendix Q**.

TABLE 17: CORNER SIGHT DISTANCE ANALYSIS SUMMARY

Proposed Driveway Location	Observed Direction When Leaving	85th Percentile Speed (Approach Direction)	County Minimum Corner Sight Distance[1] and Observation
Project Driveway	Looking East	38 MPH (Westbound)	380 ft Observed
On Hanson Lane	Looking West	37 MPH (Eastbound)	370 ft Observed

Source: [1]County of San Diego Department of Public Works *Public Road Standards* July 14, 1999.

3.11.2 Project Driveway Spacing Analysis

The project driveway on Hanson Lane is within 200 feet of other driveways. According to DPW staff, this project is overlapped with a previously approved TM (5378), which has an approved design modification for the centerline separations between Gale Jean Court and School Daze Lane. A copy of this approved design modification is located in **Appendix R**.

3.12 Hazards to Pedestrians or Bicyclists

The project is located on Hanson Lane, which does not have bicycle lanes identified on the circulation element; however, a bike lane does exist on Hanson Lane. The County's Bicycle Transportation Plan dated December 2003 does list a bike lane for Hanson Lane from Ramona Street to Ashley Road (documentation included in **Appendix S**).

The south side of Hanson Lane where the project access is proposed does not have a sidewalk. This configuration is consistent with other segments of Hanson Lane where dirt areas are available beyond the edge of pavement and before the right-of-way.

3.13 Parking Capacity

Parking will be provided per code.

3.14 Alternative Transportation

North County Transit District (NCTD) Breeze bus route 386 serves Ramona as does Metropolitan Transit System (MTS) bus routes 891/892. Both bus routes stop near the intersection of Main Street and Ramona Street (located approximately 1 mile north of the project site).

3.15 Project Access and On-Site Circulation

Primary project access is proposed to Hanson Lane and a secondary access will be gated but will allow emergency passage to and from Hanson Way. Documentation for the required secondary emergency access and gate details are included in **Appendix T**.

4.0 Impact Summary

4.1 Impact Summary Table

No direct impacts were calculated; however, one cumulative impact was calculated under near-term conditions. No horizon year impacts were calculated. An impact summary is shown in **Table 18**.

TABLE 18: IMPACT SUMMARY TABLE

Roadway Facility	Near-Term Direct Impacts	Near-Term Cumulative Impacts
Segments	None	1) San Vicente Rd south of Hanson Ln
Intersections	None	None
Driveway Spacing	1) Project driveway spacing from other driveways is less than standard spacing	1) Project driveway spacing from other driveways is less than standard spacing
Roadway Facility	**Horizon-Year Direct Impacts**	**Horizon-Year Cumulative Impacts**
Segments	None	None
Intersections	None	None
Driveway Spacing	1) Project driveway spacing from other driveways is less than standard spacing	1) Project driveway spacing from other driveways is less than standard spacing

4.2 Road Segments

4.2.1 Guidelines for the Determination of Significance

Based on the County of San Diego *Guidelines for Determining Significance and Report Format & Content Requirements Transportation and Traffic*, adopted September 26, 2006 and revised effective December 5, 2007, a project may have a direct and or cumulative impact if the significance criteria are exceeded as shown in **Table 19**.

TABLE 19: COUNTY OF SAN DIEGO SIGNIFICANT TRAFFIC IMPACT THRESHOLDS – ROAD SEGMENTS

Measures of Significant Project Impacts to Congestion
Allowable Increases on Congested Roads

	Road Segments		
Operations	2-Lane Road	4-Lane Road	6-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

Source: County of San Diego *Guidelines for Determining Significance* Table 1 from page 9.

A direct impact would occur when the significance criteria is exceeded. If the proposed project exceeds the values provided in the above table, then the individually proposed project would result in a direct traffic impact. Specific improvements to mitigate direct impacts must be identified.

A cumulative impact would occur when two conditions are met: 1) will build-out of all near term projects result in a cumulative traffic impact and 2) does the amount of traffic generated by the individual proposed project contribute (even in a small part) to that cumulative impact. Both conditions must be met for an individual project to result in a cumulative traffic impact. If the

traffic generated from all the near term projects (cumulative projects) would result in a cumulative traffic impact then condition one is met. If the total amount of traffic generated exceeds the values provided in the above table, then condition 2 is met and the individually proposed project would result in a cumulative traffic impact. Fair share contributions toward cumulative impacts may only be provided when a specific project and schedule for completion of the project has been identified.

The County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements Transportation and Traffic*, adopted September 26, 2006 and revised effective December 5, 2007 includes a summary of how a project's potential traffic impact would be perceptible to the average driver on roadway segments:

> "Based on these criteria [Table above], an impact from new development on an LOS E road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 200 ADT. Using SANDAG's "Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region" for most discretionary projects this would generate less than 25 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 2.4 minutes. Therefore, the addition of 200 ADT, in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. Significance criteria were also established for four-lane and six-lane roads operating at LOS E and are based upon the above 24 hour ADT significance criterion established for two-lane roads. The two-lane road criterion was doubled to determine impacts to four-lane roads and tripled to determine impacts to six-lane roads. This was considered to be conservative since the 24 hour per lane road capacity for a 4-lane road is more than double that of a two-lane road and the per lane capacity of a six-lane road is more than triple that of the two-lane road. For LOS E roads, the additional significance criteria are 400 ADT for a four-lane road and 600 ADT for a six-lane road. Similar to criterion for two-lane road, the 400 ADT for a 4-lane road and 600 ADT for a 6-lane road criteria would generate less than 25 per lane peak hour trips for most discretionary projects. On average, during peak hour conditions, this would be only one additional car per lane every 2.4 minutes. The addition of 200 ADT per lane (400 ADT for a 4 lane road or 600 for a 6-lane road), in most cases, would result in changes to traffic flow that would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway…"

> "The second significance criteria listed in [Table above] addresses roadways presently operating at LOS F. Under LOS F congested conditions, small changes and disruptions to the traffic flow on County Circulation Element Road can have a greater effect on traffic operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic on LOS F road more stringent significance criteria was established when compared to that for LOS E. Based on this guidance, an impact from new development on an LOS F road would be reached when the increase in average daily trips (ADT) on a two-lane road exceeds 100. Again, using SANDAG's "Brief Guide for Vehicular Traffic Generation Rates for the San Diego Region" for most discretionary projects this would generate less than 12.5 peak hour trips. On average, during peak hour conditions, this would be only one additional car every 4.8 minutes. The addition of 100 ADT, in most cases, would not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. The same

approach used to determine significance criteria for four-lane and six-lane roads operating at LOS E was used to determine appropriate significance criteria for four-lane and six-lane road operating at LOS F. Based on this approach, the significance criteria for a four-lane road (200 ADT) and for a six-lane road (300 ADT) would generate less than 12.5 per lane peak hour trips for most discretionary projects. On average, during peak hour conditions, this would be only one additional car per lane every 4.8 minutes. The addition of 100 per lane ADT (200 ADT for a 4-lane and 300 ADT for a 6-lane road) would, in most cases, not be noticeable to the average driver and therefore would not constitute a significant impact on the roadway. In summary, under extremely congested LOS F conditions, small changes and disruptions to the traffic flow can significantly affect traffic operations and additional project traffic can increase the likelihood or frequency of these events. Therefore, the LOS F ADT significance criteria was set at 100 ADT (50% of the LOS E threshold) to provide a higher level of assurance that the traffic allowed under the threshold would not significantly impact traffic operation on the road segment."

4.2.2 Significance of Impacts Prior to Mitigation

Without mitigation the potential impacts may cause delays or add project traffic beyond the amounts listed as allowable per the significance criteria.

4.2.3 Mitigation Measures and Design Considerations

The project has one cumulative segment impact on San Vicente Road south of Hanson Lane. The cumulative impact is calculated to operate at acceptable levels of service with the recommended mitigation of a Collector roadway classification identified in the January 2008 TIF Update as shown in **Table 20**. TIF excerpts from the County of San Diego January 2008 TIF Program Update are included in **Appendix L**.

TABLE 20: CUMULATIVE IMPACT SEGMENT OPERATIONS WITH TIF RECOMMENDED MITIGATION MEASURES

Segment	Classification	Near-Term + Existing + Project			
		Daily Volume	LOS E Capacity	V/C	LOS
San Vicente Road					
South of Hanson Ln	Major (currently built with: 2U+TWLTL)	16,560	19,000	0.87	**E**
San Vicente Road					
South of Hanson Ln	**With Proposed TIF Classification of Collector**	16,560	34,200	0.48	B

Notes: Classification per County Circulation Element Maps. Daily volume is a 24 hour volume.
LOS: Level of Service. V/C: Volume to Capacity ratio. BOLD indicates unacceptable LOS.

To mitigate the potential cumulative impacts, the project applicant proposes to pay into the Transportation Impact Fee program. The County of San Diego has developed an overall programmatic solution that addresses existing and projected future road deficiencies in the unincorporated portion of San Diego County. This program includes the adoption of a TIF program to fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. Based on SANDAG regional growth and land use forecasts, the SANDAG Regional Transportation Model was utilized to analyze projected build-out (year 2030)

development conditions on the existing circulation element roadway network throughout the unincorporated area of the County. Based on the results of the traffic modeling, funding necessary to construct transportation facilities that will mitigate cumulative impacts from new development was identified. Existing roadway deficiencies will be corrected through improvement projects funded by other public funding sources, such as TransNet, gas tax, and grants. Potential cumulative impacts to the region's freeways have been addressed in SANDAG's Regional Transportation Plan (RTP). This plan, which considers freeway buildout over the next 30 years, will use funds from TransNET, state, and federal funding to improve freeways to projected level of service objectives in the RTP.

The proposed project generates 180 ADT. These trips will be distributed on circulation element roadways in the County that were analyzed by the TIF program, some of which currently or are projected to operate at inadequate levels of service. These project trips, therefore, contribute to a potential significant cumulative impact and mitigation is required. The potential growth represented by this project was included in the growth projections upon which the TIF project is based. Therefore, payment of the TIF, which will be required at issuance of building permits, in combination with other components of the program described above, will mitigate potential cumulative impacts to less than significant. The applicant will request TIF credit for all allowable associated costs of roadway improvements that the client will construct to roadways listed in the January 2008 TIF update.

4.2.4 Conclusions (Segments)

If the project applicant participates in the TIF program, then the cumulative impact is mitigated to below a level of significance with the roadway improvement identified in the TIF.

4.3 Intersections (Signalized & Un-signalized)

4.3.1 Guidelines for the Determination of Significance

Based on the County of San Diego *Guidelines for Determining Significance and Report Format & Content Requirements Transportation and Traffic*, adopted September 26, 2006 and revised effective December 5, 2007, a project may have a direct and or cumulative impact if the significance criteria are exceeded as shown in **Table 21**.

TABLE 21: COUNTY OF SAN DIEGO SIGNIFICANT TRAFFIC IMPACT THRESHOLDS - INTERSECTIONS

Measures of Significant Project Impacts to Congestion Allowable Increases on Congested Intersections		
	Intersections	
Operations	Signalized	Un-signalized
LOS E	Delay of 2 seconds	20 peak hour trips on a critical movement
LOS F	Delay of 1 second, or 5 peak hour trips on a critical movement	5 peak hour trips on a critical movement

Source: County of San Diego *Guidelines for Determining Significance* Table 1 from page 9. Note: A critical movement is one that is experiencing excessive queues.

A direct impact would occur when the significance criteria is exceeded. If the proposed project exceeds the values provided in the above table, then the individually proposed project would result in a direct traffic impact. Specific improvements to mitigate direct impacts must be identified.

A cumulative impact would occur when two conditions are met: 1) will build-out of all near term projects result in a cumulative traffic impact and 2) does the amount of traffic generated by the individual proposed project contribute (even in a small part) to that cumulative impact. Both conditions must be met for an individual project to result in a cumulative traffic impact. If the traffic generated from all the near term projects (cumulative projects) would result in a cumulative traffic impact then condition one is met. If the total amount of traffic generated exceeds the values provided in the above table, then condition 2 is met and the individually proposed project would result in a cumulative traffic impact. Fair share contributions toward cumulative impacts may only be provided when a specific project and schedule for completion of the project has been identified.

The County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements Transportation and Traffic*, adopted September 26, 2006 and revised effective December 5, 2007 includes a summary of how a project's potential traffic impact would be perceptible to the average driver at intersection:

> "The significance criterion for signalized intersections listed in [Table above] allows an increase in the overall delay at an intersection operating at LOS E of two seconds. This is consistent with the capacity threshold contained in the SANDAG' CMP and guidelines established by the City of San Diego. A delay of two seconds is a small fraction of the typical cycle length for a signalized intersection that ranges between 60 and 120 seconds. The likelihood of increased queues forming does due to the additional two seconds of delay is low. Therefore, an increased wait time of two seconds, on average, would result in changes to traffic flow that would not be noticeable to the average driver. Therefore the significance guideline for intersections operating at LOS E is two seconds."
>
> "The primary significance criterion for signalized intersections operating at LOS F conditions was based upon increased delay at the intersection. Under LOS F congested conditions, small changes and disruptions to the traffic flow to signalized intersection can have a greater effect on overall intersection operations when compared to other LOS conditions. In order to better account for potential effects of increased traffic at signalized intersections operating at LOS F, a more stringent guideline was established when compared to signalized intersection operating at LOS E. A significance guideline of an increased delay of 1 second was established for signalized intersections operating at LOS F. An increase in the overall delay at an intersection of one second, on average, would result in changes to traffic flow that would not be noticeable to the average driver. Therefore the significance guideline for intersections operating at LOS F is 1 second."
>
> "Signalized intersections operating at LOS F also have the potential for substantial queuing at specific turning movements that may detrimentally effect overall intersection and/or road segment operations. Thus, an increase of peak hour trips to a critical move was also established as a secondary significance criterion for signalized intersections. A critical movement would be a movement or a lane at an intersection that is experiencing queuing or substantial delay and is affecting the overall operation of the intersection. The

increase in peak hour trips to a critical move is a measurement of how many cars can be added to an existing queue. The addition of five trips (peak hour) per critical movement will normally be considered a significant impact. This significance criterion was selected because the five additional trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver (one trip every 12 minutes or 720 seconds). For LOS E intersections, the 5 peak hour trips to a critical movement would not be noticeable to the average driver since the one additional trip during the 12 minute interval on average would clear the traffic signal cycles well within the 12 minute period. It should also be noted that if the 5 additional peak hour trips arrived at the same time these trips would also clear the traffic cycle and existing queue lengths would be re-established."

"The significance guidelines for unsignalized intersections identify a minimum number of trips added to a critical movement at an unsignalized intersection. Since the operations of unsignalized intersections under congested conditions are heavily influenced by traffic volume increases on critical moves, the significance guidelines for unsignalized intersections were based upon the number of trips added to a critical movement. This guideline directly relates to the number of vehicles that can be added to an existing queue that forms at the intersection. A significance criteria of twenty trips (peak hour) per critical movement was used for LOS E conditions. Although delays drivers experience under LOS E conditions may be noticeable, they are not yet considered unacceptable. The twenty trips spread out over the peak hour would not likely cause the intersection delay or existing queue lengths to become unacceptable. The twenty trips (peak hour) would not be noticeable to the average driver. A significance guideline of five trips (peak hour) per critical movement was used for LOS F conditions. The five trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver."

"The operations of unsignalized intersections under congested conditions are heavily influenced by traffic volumes increases on critical moves. Therefore, the significance guidelines for unsignalized intersections are based upon the number of peak hour trips added to a critical movement at that intersection. This guideline examines the number of vehicles that may be added to an existing queue that forms at the intersection by the additional traffic generated by a project. In LOS E situations, the delays that drivers experience are noticeable, but are not considered excessive. A peak hour increase of twenty trips to the critical movement of an unsignalized intersection would be, on average, one additional car every 3.0 minutes or 180 seconds. Assuming the average wait time for a vehicle in the critical movement queue is less than 3.0 minutes, which is typical for LOS E conditions, this would not be noticeable to the average driver and would not be considered a significant impact."

"For LOS F conditions, a significance threshold of five trips (peak hour) per critical movement was used. The five trips spread out over the peak hour would not significantly increase the length of an existing queue and would not be noticeable to the average driver. Five trips spread out over an hour would be one car every 12 minutes. This typically exceeds the average wait time in the queue and would not be noticeable to the average driver."

4.3.2 Significance of Impacts Prior to Mitigation

Without mitigation the potential impacts may cause delays or add project traffic beyond the amounts listed as allowable per the significance criteria.

4.3.3 Mitigation Measures and Design Considerations

Mitigation measures are not required as no direct and no cumulative project impacts were identified.

4.3.4 Conclusions (Intersections)

No direct project impacts and no cumulative project impacts were calculated for the study intersections.

4.4 Ramps

A ramp analysis is not required because no grade separated freeways with on-ramps are located in the vicinity of the project.

4.5 Congestion Management Program

Not applicable because the project is calculated to generate less than 2,400 ADT and less than 200 peak hour trips.

4.6 Hazards Due to an Existing Transportation Design Feature

Any required improvements will be constructed to maintain existing conditions.

4.7 Hazards to Pedestrians or Bicyclists

Any required improvements will be constructed to maintain existing conditions as it relates to pedestrian and bicyclists. The project site does not front Hanson Lane, but the project access will connect to Hanson Lane. Reduced copies of the improvement and striping plans showing how the proposed improvements will tie into Hanson Lane are included in **Appendix U**.

4.8 Parking Capacity

Parking will be provided per code.

4.9 Alternative Transportation

North County Transit District (NCTD) Breeze bus route 386 serves Ramona as does Metropolitan Transit System (MTS) bus routes 891/892. Both bus routes stop near the intersection of Main Street and Ramona Street (located approximately 1 mile north of the project site).

5.0 Summary of Recommended Project Design Features, Impacts and Mitigation

No direct impacts were calculated; however, one cumulative segment impact was calculated under near-term conditions. No horizon year impacts were calculated. An impact summary is shown in **Table 22**.

TABLE 22: SUMMARY OF PROJECT IMPACTS AND MITIGATION

Roadway Facility	Near-Term Direct Impacts	Near-Term Cumulative Impacts
Segments	0 (no mitigation required)	1 (TIF participation by applicant. Fully mitigated with recommended TIF improvement)
Intersections	0 (no mitigation required)	0 (no mitigation required)
Driveway Spacing	Less than Design Standard (Modification to Roadway Standard in Appendix R)	Less than Design Standard (Modification to Roadway Standard in Appendix R)
Roadway Facility	**Horizon Year Direct Impacts**	**Horizon Year Cumulative Impacts**
Segments	0 (no mitigation required)	0 (no mitigation required)
Intersections	0 (no mitigation required)	0 (no mitigation required)
Driveway Spacing	Less than Design Standard (Modification to Roadway Standard in Appendix R)	Less than Design Standard (Modification to Roadway Standard in Appendix R)

6.0 References

County of San Diego. December 5, 2007. *Guidelines for Determining Significance and Report Format and Content Requirements Traffic and Transportation.*

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San Diego Association of Governments (SANDAG). April 2002. *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*.

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7.0 List of Preparers and Persons and Organizations Contacted

7.1 List of Preparers

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7.2 Organizations Contacted

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Owner/Applicant – Mr. Dale Timlin

Turning Point Traffic Service (data collection) – Mike Stutz

SANDAG – Mr. Mike Calandra